DESIGN COMMISSION
MONDAY, SEPTEMBER 23, 2013 6:00 PM
AUSTIN CITY HALL, BOARDS AND COMMISSIONS ROOM 1101
301 W. SECOND STREET, AUSTIN, TEXAS 78701

Current Commission Members

_____ James Shieh (JS) – Chair
_____ Dean Almy (DA) – Vice Chair
_____ Evan Taniguchi (ET) – Secretary
_____ Juan E. Cotera (JC)
_____ Jeannie Wiginton (JW)
_____ Bart Whatley (BW)
_____ Hope Hasbrouck (HH)

_____ Jorge E. Rousselin (COA – PDRD)
Staff Liaison

AGENDA

Please note: Posted times are for time-keeping purposes only. The Commission may take any item(s) out of order and no express guarantee is given that any item(s) will be taken in order or at the time posted.

	Approx time
CALL TO ORDER AND ROLL CALL	**6:00 PM**
1. CITIZEN COMMUNICATION: GENERAL The first five speakers signed up prior to the meeting being called to order will each be allowed a three-minute allotment to address their concerns regarding items not posted on the agenda.	**6:00 PM**
2. APPROVAL OF MINUTES (Discussion and Possible Action) a. Discussion and possible action on the August 26, 2013 Design Commission meeting minutes.	**6:15 PM**
3. NEW BUSINESS (Discussion and Possible Action): a. Discussion and possible action to consider a recommendation for the 2nd Street Bridge and Extension located at Second Street from West Avenue to east bank of Shoal Creek and Shoal Creek from Cesar Chavez to Third Street under site plan SP-2013-0079D, a proposed development greater than 1 acre in a P, public zoning district. (Cynthia Jordan, COA-PW). b. Discussion and possible action on the project submittal for Block 51 located at 110 San Antonio St. seeking support for the project. (James Schissler, Jones & Carter, Inc.).	**6:20 PM**

4. OLD BUSINESS (Discussion and Possible Action) a. Discussion and possible action on Design Guidelines for infrastructure projects as directed by City Council Resolution No.: 20120816-060 including discussion on Design Commission's areas of critical concern.	**7:00 PM**
5. COMMITTEE AND LIAISON REPORTS (Discussion and Possible Action) a. Standing Committees Reports; b. Working Group Reports; c. Liaison Reports; d. Appointment of Committee/Working Group members by Chair.	**7:45 PM**
6. STAFF BRIEFINGS: None	**7:50 PM**
7. FUTURE AGENDA ITEMS	**7:50 PM**
8. ANNOUNCEMENTS a. Chair Announcements; b. Items from Commission Members; and c. Items from City Staff.	**7:55 PM**
ADJOURNMENT	**8:00 PM**

The City of Austin is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Meeting locations are planned with wheelchair access. If requiring Sign Language Interpreters or alternative formats, please give notice at least 3 days before the meeting date. Please contact Annie Pennie in the Planning and Development Review Department, at annie.pennie@austintexas.gov or (512) 974-1403, for additional information. TTY users route through Relay Texas at 711.

Design Commission Committees, Working Groups, and Liaisons

Committees

1. Bylaws/Policies & Procedures Committee: Wiginton (Chair), Cotera, Whatley
2. Executive Committee: Shieh (Chair), Almy, Taniguchi

Working Groups

1. Project Review Working Group: Refer to rotating list
2. Comprehensive Plan Working Group: Taniguchi (Chair), Whatley, Hasbrouck
3. Non-Urban Project Review Working Group: Shieh (Chair), Whatley, Taniguchi
4. Urban Design Guidelines Working Group: Cotera (Chair), Shieh, Almy
5. Urban Open Space Working Group: Whatley (Chair), Hasbrouck, Wiginton
6. Nomination Working Group: Cotera (Chair), Shieh, Wiginton
7. Education and Outreach Working Group: Hasbrouck (Chair), Cotera, Wiginton
8. Infrastructure Design Guidelines:
    a. Synthesis Working Group: Hasbrouck and Wiginton
    b. Overview Working Group: Almy and Hasbrouck
    c. Background Working Group: Taniguchi and Hasbrouck
    d. Values and Vision Working Group: Cotera and Almy
    e. Guidelines Working Group: Whatley and Shieh
    f. Process Working Group: Wiginton and Shieh

Design Commission Liaisons

1. Affordable Housing Liaison: Wiginton
2. Downtown Comm. Liaison / Downtown Austin Plan: Whatley
3. TOD Liaison: Shieh
4. East Riverside Master Plan: Shieh
5. Airport Boulevard Redevelopment Initiative: Whatley
6. South Shore Waterfront SDAT: Almy
7. Imagine Austin Comprehensive Plan: Taniguchi
8. Downtown Wayfinding: Taniguchi

Design Commission Staff Liaison:

Jorge E. Rousselin, Development Services Process Coordinator
Urban Desgin, Planning and Development Review Department
City of Austin, One Texas Center, 505 Barton Springs Rd., Austin, TX 78704
Phone: (512) 974-2975 ■ Fax: (512) 974-2269 ■ E-mail: jorge.rousselin@austintexas.gov

Resources:

1. The Urban Design Guidelines for Austin can be accessed here: **Urban Design Guidelines for Austin.**

2. Design Commission backup may be accessed here: **Design Commission Backup.**

DESIGN COMMISSION
MONDAY, AUGUST 26, 2013 6:00 PM
AUSTIN CITY HALL, BOARDS AND COMMISSIONS ROOM 1101
301 W. SECOND STREET, AUSTIN, TEXAS 78768

Current Commission Members

_P____ James Shieh (JS) – Chair
_P___ Dean Almy (DA) – Vice Chair
_P___ Evan Taniguchi (ET) – Secretary
__EA*__ Juan E. Cotera (JC)
__EA*__ Jeannie Wiginton (JW)
___P__ Bart Whatley (BW)
__ P___ Hope Hasbrouck (HH)

__ P___ Jorge E. Rousselin (COA – PDRD)
Staff Liaison

*Excused Absence

Meeting Minutes

Call to order by: Chair J. Shieh @ 6:04 pm

Roll Call: J. Cotera; Wiginton not present with excused absences.

1. CITIZEN COMMUNICATION: None

2. APPROVAL OF MINUTES (Discussion and Possible Action)

a. Discussion and possible action on the July 22, 2013 Design Commission meeting minutes.
The motion to approve the minutes as drafted made by E. Taniguchi; Second by D. Almy was approved on a vote of [5-0]. [J. Cotera; Wiginton not present].

3. NEW BUSINESS (Discussion and Possible Action)

a. Briefing, discussion and possible action on a recommendation to the City Council on the draft Holly Shores/Edward Rendon Sr. at Festival Beach Park master Plan. (Chris Matthews, Michael Van Valkenburgh and Associates, Inc.)

Mr. Chris Yanez introduced the item also introducing Lynn Osgood and Chris Matthews from the consultant team. Mr. Chris Matthews gave a presentation on the proposed Master Plan.

The motion to enthusiastically endorse Master Plan as presented and recommend implementation made by J. Shieh; Second by B. Whatley was approved on a vote of [5-0]. [J. Cotera; J. Wiginton not present].

b. Discussion and possible action on the project submittal for the Rundberg Lane extension from Metric Blvd. to Burnet Road located at the intersection of Burnet Road and McNiel Rd. seeking support for the lane extension. (Clay Harris, COA-PW)

Mr. Clay Harris presented the project to the commission. The commission provided feedback on the lane extension. Ms. Christine Freundl fielded questions from the Commission.

No action by commission

4. OLD BUSINESS (Discussion and Possible Action)

a. Discussion and possible action on Design Guidelines for infrastructure projects as directed by City Council Resolution No: 20120816-060.
The Commission discussed direction by Council offices and assigned various working groups to develop recommendations.
No action by commission.

5. COMMITTEE AND WORKING GROUP REPORTS (Discussion and Possible Action)

a. Standing Committees Reports: **None**

b. Working Group Reports: **None**

c. Liaison Reports:

South Shore Central: Council approved Master Plan Production for next year.
Downtown Commission: Creation of additional Downtown Plan – Rainey presentation of draft special events ordinance.

d. Appointment of Committee/Working Group members by Chair: **None**

6. STAFF BRIEFINGS

None

7. FUTURE AGENDA ITEMS: None

8. ANNOUNCEMENTS

a. Chair Announcements: **None**

b. Items from Commission Members: **None**

c. Items from City Staff: **None**

ADJOURNMENT by consensus at: 8:12 PM

City of Austin
Design Commission – Project Submittal Consideration Sheet

Project Name: 2nd Street Bridge and Extension / Shoal Creek to West Ave		
Project Location/Address: Second Street from West Avenue to east bank of Shoal Creek and Shoal Creek from Cesar Chavez to Third Street		
Applicant: Cynthia Jordan	**Property Owner:** City of Austin	
Mailing Address: 505 Barton Springs Rd #900	**Mailing Address:** 505 Barton Springs Rd	
Phone Number: 512-974-7183	**Phone Number:**	
Project Architect/Engineer: Kevin Sweat, P.E.	**Project Start Date:** 2014	**Project End Date:** 2016
Mailing Address: 505 Barton Springs Road #900	**Phone Number:** 512-974-7017	
Is project subject to redevelopment site plan or zoning application approvals? Yes ☐ No ☑	**Anticipated Dates of Action** Planning Commission: October, 2013 City Council: N/A	

Narrative Description of Proposed Project (including entitlements that you are seeking; attach or add additional page(s) as necessary) :

This project will connect West Second Street from the proposed West Avenue (Seaholm Redevelopment Project) across Shoal Creek to the Green Water Treatment Plant Redevelopment. This project includes a proposed bridge across Shoal Creek. The project will be constructed in conjunction with the New Central Library and has been designed with a "Festival Street" concept in order to enhance the pedestrian nature of the District.

The project also includes extensive restoration and stabilization of Shoal Creek including parkland enhancements and improvements to the Shoal Creek hike and bike trail and the Lance Armstrong Bikeway.

Is Alternative Equivalent Compliance (AEC) requested for this project?

☐ **Yes** ☑ **No** **If yes, please refer to following page**

Current Status of Submittal:

☐ **Conceptual** ☐ **Schematic** ☑ **Design Development**

Do you have a copy of the Urban Design Guidelines for Austin? ☑ **Yes** ☐ **No**
If not, please see:
http://www.ci.austin.tx.us/downtown/downloads/urban_design_guidelines_for_austin.pdf

Please fill in the subsequent information on the following pages.

Relate the project to applicable items addressed in the Urban Design Guidelines for Austin. For an explanation of each guideline, please review the document at: http://www.ci.austin.tx.us/downtown/downloads/urban_design_guidelines_for_austin.pdf

ALTERNATIVE EQUIVALENT COMPLIANCE (AEC)

Is AEC being requested for this project? ☐ **Yes** ☑ **No**

If yes, please explain nature of request including alternatives offered and entitlements sought. Attach additional page if necessary.

AREA WIDE GUIDELINES

1. Create dense development

☐ incorporated, ☐ need input, ☑ N/A

2. Create mixed-use development

☐ incorporated, ☐ need input, ☑ N/A

3. Limit development which closes downtown streets

☑ incorporated, ☐ need input, ☐ N/A

4. Buffer neighborhood edges

☐ incorporated, ☐ need input, ☑ N/A

5. Incorporate civic art in both public and private development

☑ incorporated, ☐ need input, ☐ N/A

6. Protect important public views

☐ incorporated, ☐ need input, ☑ N/A

7. Avoid historical misrepresentations

☑ incorporated, ☐ need input, ☐ N/A

8. Respect adjacent historic buildings

☐ incorporated, ☐ need input, ☑ N/A

9. Acknowledge that rooftops are seen from other buildings and the street

☐ incorporated, ☐ need input, ☑ N/A

10. Avoid the development of theme environments

☑ incorporated, ☐ need input, ☐ N/A

11. Recycle existing building stock

☑ incorporated, ☐ need input, ☐ N/A

GUIDELINES FOR THE PUBLIC STREETSCAPE

1. Protect the pedestrian where the building meets the street

☑ incorporated, ☐ need input, ☐ N/A

2. Minimize curb cuts

☑ incorporated, ☐ need input, ☐ N/A

3. Create a potential for two-way streets

☑ incorporated, ☐ need input, ☐ N/A

4. Reinforce pedestrian activity

☑ incorporated, ☐ need input, ☐ N/A

5. Enhance key transit stops

☐ incorporated, ☐ need input, ☑ N/A

6. Enhance the streetscape

☑ incorporated, ☐ need input, ☐ N/A

7. Avoid conflicts between pedestrians and utility equipment

☑ incorporated, ☐ need input, ☐ N/A

8. Install street trees

☑ incorporated, ☐ need input, ☐ N/A

9. Provide pedestrian-scaled lighting

☐ incorporated, ☑ need input, ☐ N/A

10. Provide protection from cars/promote curbside parking

☑ incorporated, ☐ need input, ☑ N/A

11. Screen mechanical and utility equipment

☑ incorporated, ☐ need input, ☐ N/A

12. Provide generous street-level windows

☐ incorporated, ☐ need input, ☑ N/A

13. Install pedestrian-friendly materials at street level

☑ incorporated, ☐ need input, ☐ N/A

GUIDELINES FOR PLAZAS AND OPEN SPACE

1. Treat the four squares with special consideration

☐ incorporated, ☐ need input, ☑ N/A

2. Contribute to an open space network

☑ incorporated, ☐ need input, ☐ N/A

3. Emphasize connections to parks and greenways

☑ incorporated, ☐ need input, ☐ N/A

4. Incorporate open space into residential development

☐ incorporated, ☐ need input, ☑ N/A

5. Develop green roofs

☐ incorporated, ☐ need input, ☑ N/A

6. Provide plazas in high use areas

☐ incorporated, ☐ need input, ☑ N/A

7. Determine plaza function, size, and activity

☐ incorporated, ☐ need input, ☑ N/A

8. Respond to microclimate in plaza design

☐ incorporated, ☐ need input, ☑ N/A

9. Consider views, circulation, boundaries, and subspaces in plaza design

☐ incorporated, ☐ need input, ☑ N/A

10. Provide an appropriate amount of plaza seating

☐ incorporated, ☐ need input, ☑ N/A

11. Provide visual and spatial complexity in public spaces

☑ incorporated, ☐ need input, ☐ N/A

12. Use plants to enliven urban spaces

☑ incorporated, ☐ need input, ☐ N/A

13. Provide interactive civic art and fountains in plazas

☐ incorporated, ☐ need input, ☑ N/A

14. Provide food service for plaza participants

☐ incorporated, ☐ need input, ☑ N/A

15. Increase safety in plazas through wayfinding, lighting, & visibility

☐ incorporated, ☐ need input, ☑ N/A

16. Consider plaza operations and maintenance

☐ incorporated, ☐ need input, ☑ N/A

GUIDELINES FOR BUILDINGS

1. Build to the street

☐ incorporated, ☐ need input, ☑ N/A

2. Provide multi-tenant, pedestrian-oriented development at the street level

☐ incorporated, ☐ need input, ☑ N/A

3. Accentuate primary entrances

☐ incorporated, ☐ need input, ☑ N/A

4. Encourage the inclusion of local character

☐ incorporated, ☐ need input, ☑ N/A

5. Control on-site parking

☐ incorporated, ☐ need input, ☑ N/A

6. Create quality construction

☐ incorporated, ☐ need input, ☑ N/A

7. Create buildings with human scale

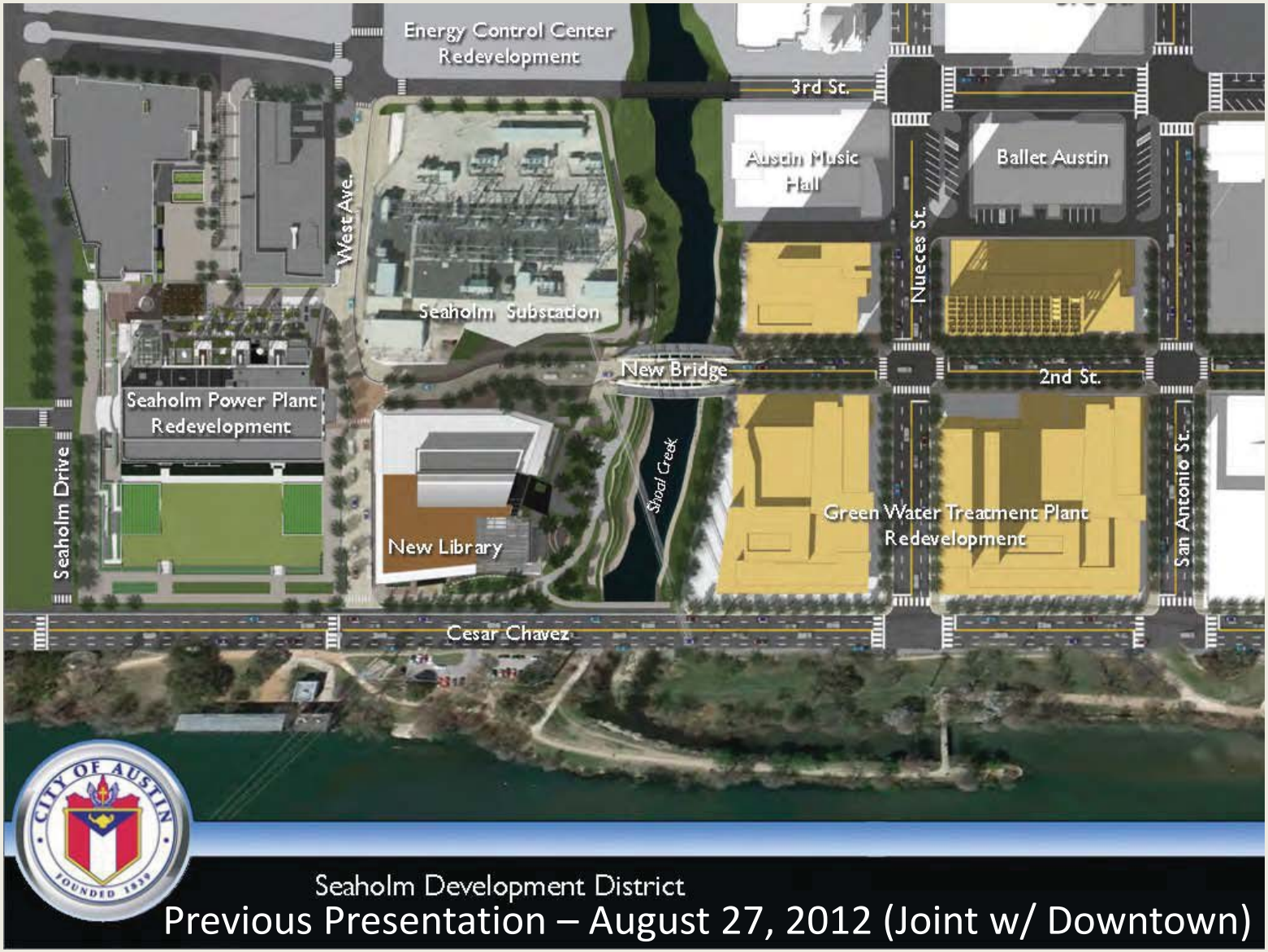
☐ incorporated, ☐ need input, ☑ N/A

2nd Street Bridge and Extension / Shoal Creek to West Ave

Design Commission Project Review

September 23rd, 2013

District Overview Map



Project Description

- This project will connect West Second Street from the proposed West Avenue (Seaholm Redevelopment Project) across Shoal Creek to the Green Water Treatment Plant Redevelopment. This project includes a proposed bridge across Shoal Creek. The project will be constructed in conjunction with the New Central Library and has been designed with a "Festival Street" concept in order to enhance the pedestrian nature of the District.

- The project also includes extensive restoration and stabilization of Shoal Creek including parkland enhancements and improvements to the Shoal Creek hike and bike trail and the Lance Armstrong Bikeway.

Project Vicinity Map

Project Status / Schedule

- Project is in Final Permitting Phase
- Utility Construction and Preliminary Site Grading is underway
- Project is being constructed in conjunction with the New Central Library using the Construction Manager at Risk project delivery method (Hensel Phelps Construction Co.)

Presentation Goals / Objectives

- Update Design Commission on Project Details and Development
- Share final Renderings
- Solicit Design Commission Support as required for Site Development Permit

Sustainability Highlights

- First Downtown Great Streets Streetscape Project to provide onsite Water Quality Controls (Rain Gardens)
- Re-purposing of Former Austin Energy Pump Room as Cistern for Library Water Collection System
- Concrete Pavement – longer life, albedo effect

Incorporation of Urban Design Guidelines

- Extension of Second Street District – collaborative design effort with COA Urban Design
- Festival Street Concept – curb-less design to facilitate Special Events and Festivals
- New Central Library – Civic Building and its interface with the Streetscape and Parkland
- Art in Public Places

Existing Conditions

View of Bridge from Trail

View of Bridge and Library

View of Second Street from Trail

Current Site Plan

- (See Site Plan PDF)

SITE PLAN
NEW AUSTIN CENTRAL LIBRARY AND RELATED IMPROVEMENTS

CITY OF AUSTIN
03/28/2013

mwm Design Group

COLEMAN & ASSOCIATES

City of Austin
Design Commission – Project Submittal Consideration Sheet

Project Name: Block 1		
Project Location/Address: 110 San Antonio St.		
Applicant: Trammell Crow Co.	**Property Owner:** City of Austin	
Mailing Address: 100 Congress, Ste 225	**Mailing Address:** W 2nd St.	
Phone Number: 512-482-5500	**Phone Number:** 512-947-7131	
Project Architect/Engineer: Jones & Carter	**Project Start Date:** 01-01-14	**Project End Date:** 03-01-16
Mailing Address: 1701 Directors Blvd, Ste 400	**Phone Number:** 512-441-9493	
Is project subject to redevelopment site plan or zoning application approvals? Yes ☐ No ☑	**Anticipated Dates of Action** Planning Commission: City Council: N/A	

Narrative Description of Proposed Project (including entitlements that you are seeking; attach or add additional page(s) as necessary) :

The Block 1 property is in the heart of downtown Austin, Texas, along the north bank of Lady Bird Lake, at the northwest corner of Cesar Chavez Street and San Antonio Street (the "Site"). The 413' residential tower is composed of approximately 456,883 residential rentable square feet in 439 rental units, with an additional 28,794 square feet of retail and restaurant space at ground level, and an additional 24,118 square feet of office space on 3 floors. A below grade and above grade parking garage will allow parking for 895 cars. At the 8th floor, there will be a private deck for the residents, along with indoor amenities such as entertaining rooms, demonstration kitchens, movie theater, fitness room and a cyber lounge. The tower is a concrete frame with steel, masonry and glass design.

Is Alternative Equivalent Compliance (AEC) requested for this project?

☐ **Yes** ☑ **No** **If yes, please refer to following page**

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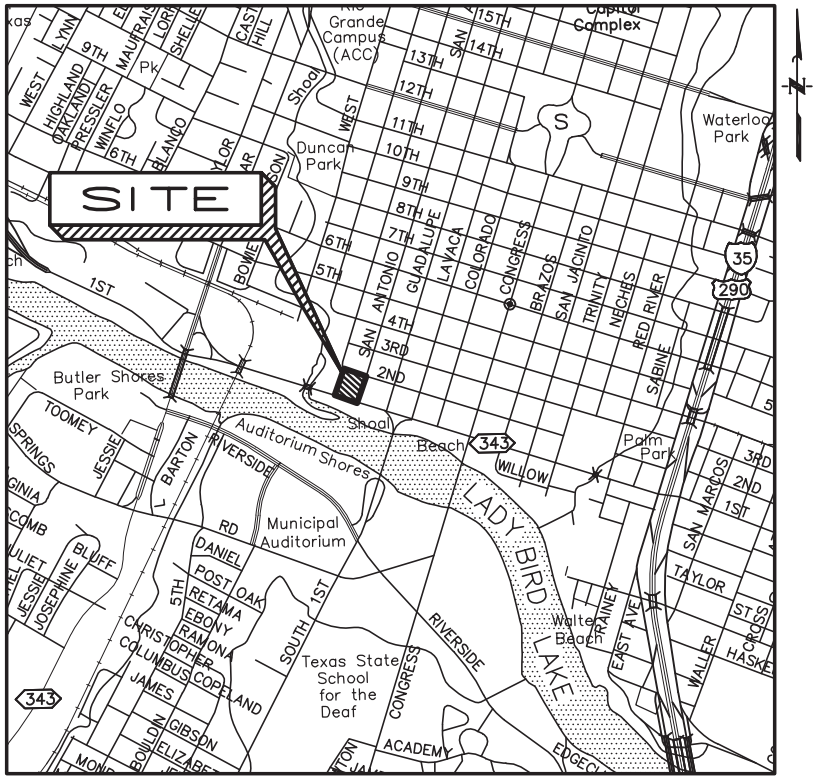
7. Create buildings with human scale

☑ incorporated, ☐ need input, ☐ N/A

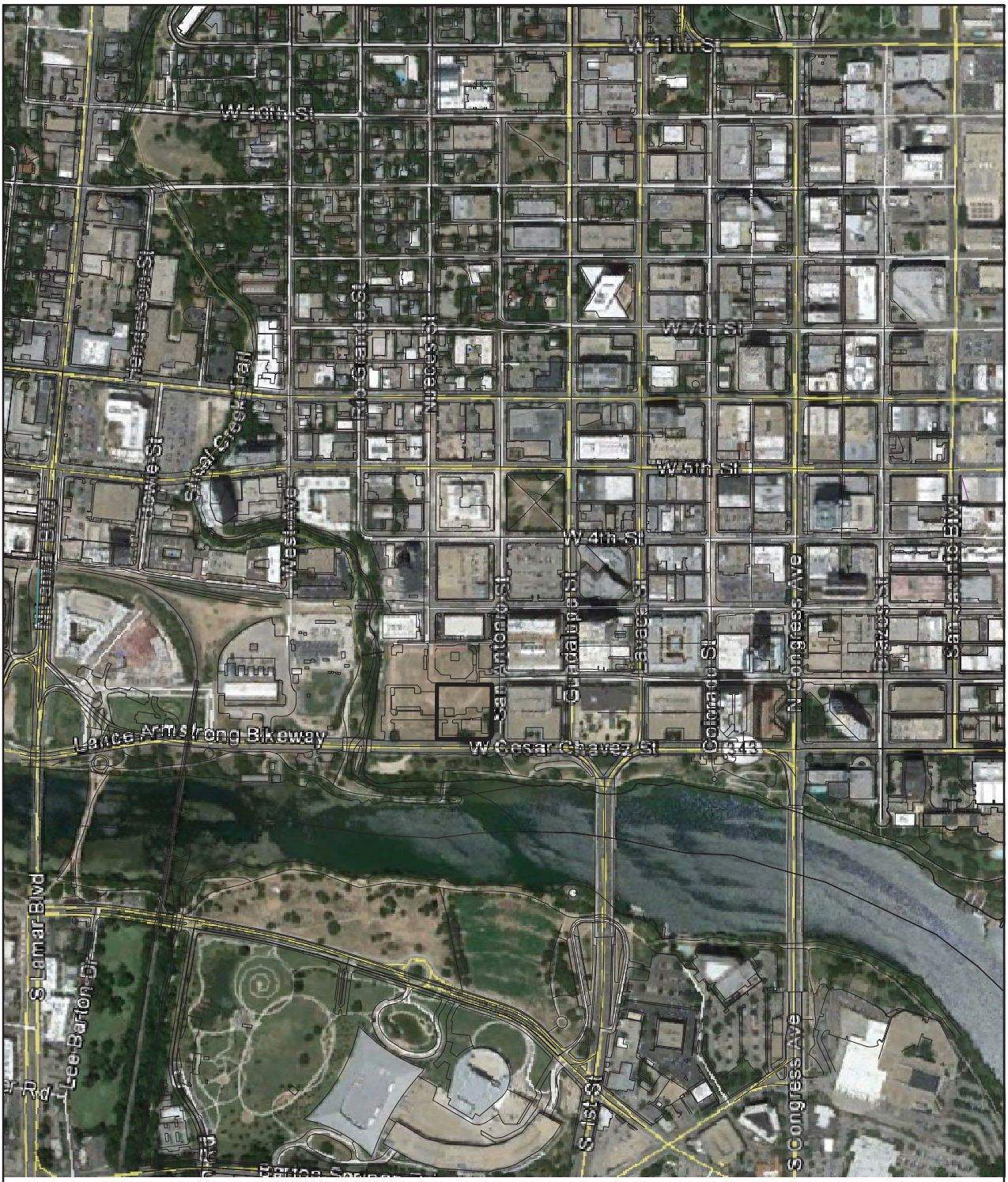


BLOCK 1

LOCATION MAP

JONES & CARTER, INC.
ENGINEERS • PLANNERS • SURVEYORS
Texas Board of Professional Engineers Registration No. F-439
1701 Directors Blvd., Suite 400 Austin, Texas 78744 (512) 441-9493

SCALE:	NTS
DATE:	05/01/2013
JOB NO:	A648-002-00



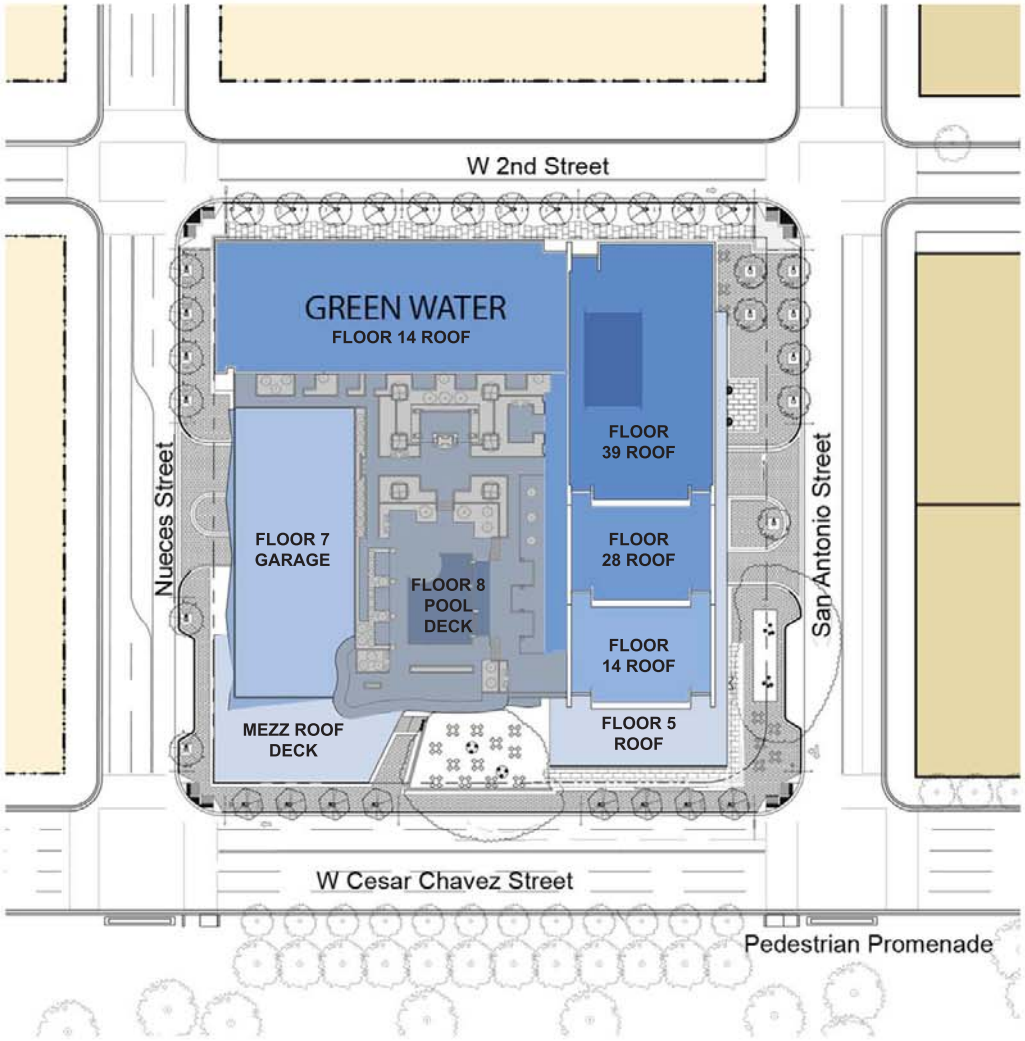
J:\Projects\A648_Green_Water_Treatment_Plant_Feasibility\002_Block_1\Civil\Exhibits\AERIAL_OVERLAY.dwg

BLOCK 1

AERIAL EXHIBIT

JONES & CARTER, INC.
ENGINEERS • PLANNERS • SURVEYORS
Texas Board of Professional Engineers Registration No. F-439
1701 Directors Blvd., Suite 400 Austin, Texas 78744 (512) 441-9493

SCALE: 1" = 500'
DATE: 9/17/2013
JOB NO: A648-0002



Trammell Crow Company

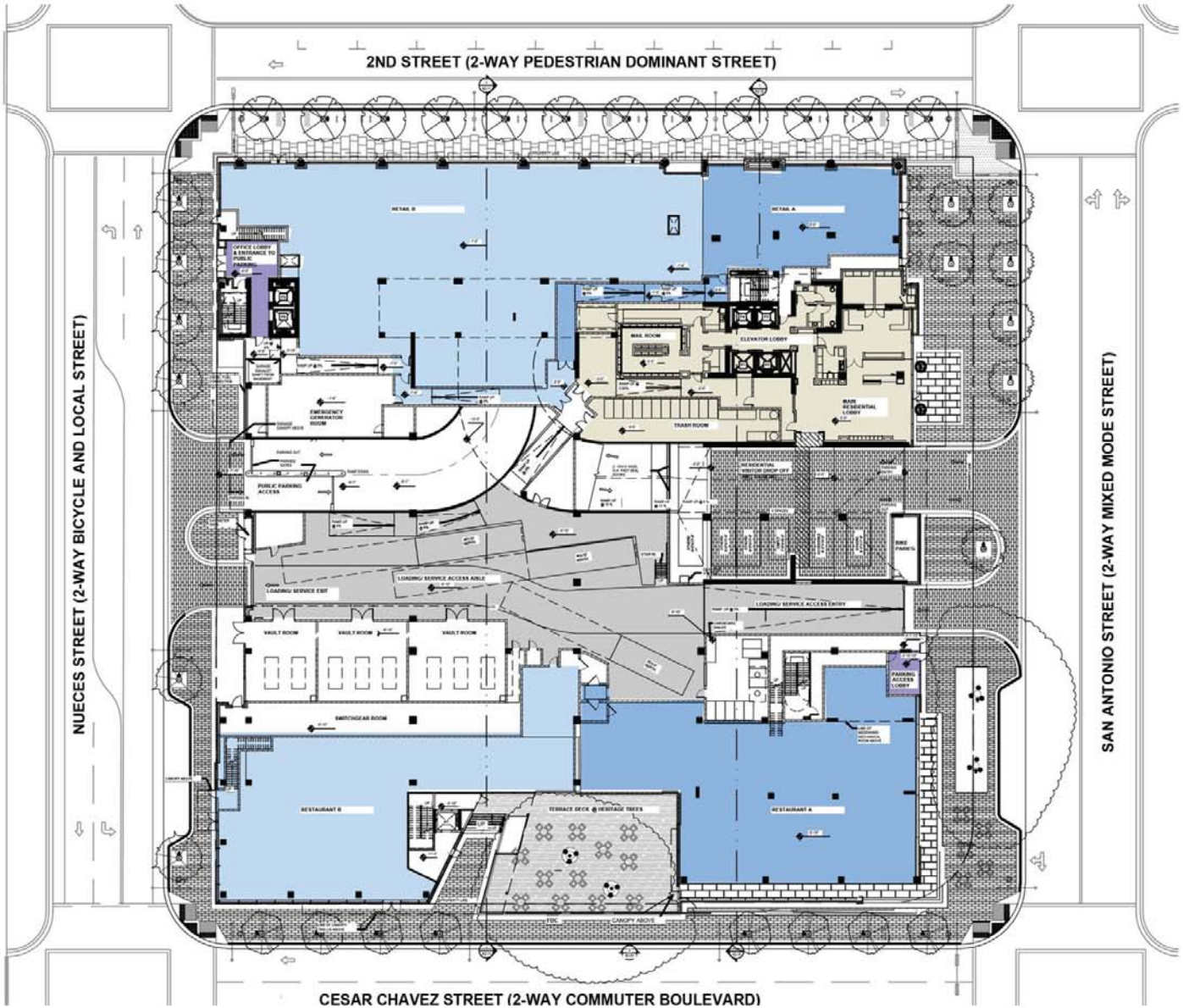
THE HANOVER COMPANY

SITE PLAN
GREEN WATER
AUSTIN, TX

09.04.2013

2011041

0 32' 64'



Trammell Crow Company

THE HANOVER COMPANY

FLOOR PLAN DIAGRAM
GREEN WATER
AUSTIN, TX

09.04.2013

2011041

0 20' 40'

Trammell Crow Company

THE HANOVER COMPANY

Southeast Perspective
GREEN WATER
AUSTIN, TX

09.04.2013

2011041

Austin Design Commission

Board/Commission Recommendation
20130722-004A
Update to Mayor and Council on crafting of Infrastructure Design Guidelines as requested by Resolution No. 20120816-060.
Unanimously approved by the Design Commission on a 7-0 vote.

July 30, 2013

Dear Mayor and Councilmembers,

We would like to update you on our progress in developing the new Infrastructure Design Guidelines for the City of Austin in response to City Council Resolution 20120816-060. Infrastructure comprises a significant part of the urban environment and approaching this issue has presented a tremendous challenge to the Commission. After numerous discussions with staff, departments, and within the Commission, we are developing a clear framework to address infrastructure related projects. The Urban Design Guidelines has served as the model to ensure that the document will be familiar and fit in with current expectations and process. The focus of the guidelines is to shape its relationship to the urban landscape and not affect the technical requirements.

Given the complexity of the work, the Design Commission requests staff assistance for the next fiscal year. Specifically we will need 2 staff personnel for 6 months to work on graphics, editorial, photo selections, and desktop publishing on a part time basis.

The following document is the Introduction and Table of Contents for the Infrastructure Design Guidelines. A version with more detailed information will be distributed to the appropriate departments for review and comment. We will continue to develop the document and interface with the departments to ensure inclusion and understanding of its proper use.

Thank you very much for the opportunity to explore and address such an important issue of for the City.

If you have any questions, please feel free to contact us anytime.

Sincerely,

James Shieh
Chair, Design Commission

CITY OF AUSTIN

DESIGN COMMISSION

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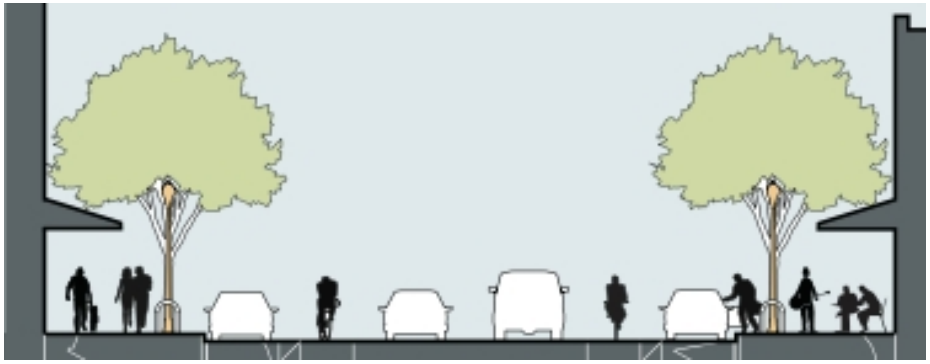
INTERIM

INFRASTRUCTURE DESIGN GUIDELINES

Mueller Water Tower

Seaholm Bridge (proposed)

Seaholm Wall (proposed)



Great Streets

Introduction

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The Design Commission provides advisory recommendations to the City Council on matters pertaining to the quality of proposed urban development, and as requested by the Council, assists in developing public policy and in promoting excellence in the design and development of Austin's built environment. In our capacity as stewards of Austin's built identity, Council has asked the Design Commission to broaden its scope to include policies and standards for the design and review of the infrastructural components of our city. This Manual of Infrastructure Design Guidelines is meant to complement both the city's Urban Design Guidelines, and the Imagine Austin Comprehensive Plan. The Infrastructure Design Guidelines address the design character and construction of components and systems that structure and support the ongoing development and growth of the City of Austin and aim to enable the City to attain its vision of becoming the most livable city in the country. Design excellence in infrastructure contributes to sustainable growth and supports Austin's civic identity.

Because of Austin's extraordinary rapid growth and its focus on becoming a more "compact-and-connected" city, the need for new infrastructure to support new development has increased as well, almost becoming out of control. To ensure that these infrastructure projects do not have an adverse effect on the public realm, and that they are integrated into the concept of smart growth, the City Council passed Resolution 20100819-035, which assigned the Design Commission to develop guidelines for these infrastructure projects. This document will be quite similar to the Urban Design Guidelines produced in 2009, and will reflect many of the visions of the Imagine Austin Comprehensive Plan, which was adopted in 2012. The Manual of Infrastructure Design Guidelines (IDG) will provide the necessary framework for all future, applicable public infrastructure projects with the goal of enhancing Austin's quality of life. The IDG focuses on projects that have a significant impact on the public realm and will build on values expressed in the Urban Design Guidelines and Imagine Austin Comprehensive Plan.

What is Infrastructure?

Infrastructure can generally be defined as the set of interconnected structural components that provide the necessary supporting framework for urban development. Typically referring to the technical structures that support a society's needs, such as roads, bridges, water supply, sewers, electrical grids, telecommunications, and so forth, infrastructure is comprised of "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions."[Fulmer, 2009]. The Design Commission is primarily concerned with achieving excellence in the design of such structures and systems.

Infrastructure plays two primary roles in the design of urban environments: performative, and connective. Performative in this context refers to the capacity of the infrastructure to accomplish the technical function for which the system has been designed, be it the distribution and collection of water, electricity, transportation, etc., or the provision of systems of public space, streets, sidewalks, etc. Performative standards and criteria are the purview of City Staff and City Departments. Connective refers to the ability of infrastructure to integrate disparate urban development components and projects into an integrated system.

Connective also refers to the socially supportive role that infrastructure may play in enhancing the quality of life of the citizens of Austin. The Design Commission seeks to work with and advise City Staff, City Departments, and developers on was to attain excellence in the design and integration of the physical and social systems of our city.

The Infrastructure Guidelines outline the vision, principles and connective design criteria that are required for the design of our city's urban structure. The Infrastructure Design Guidelines provide the necessary framework for the design of a compact, connected and sustainable urban environment for Austin. The Design Commission's role in evaluating infrastructure proposals is to ensure that each development project is designed adequately and systematically reflects the values and principles espoused by the framework in order to realize the goals of the Imagine Austin Comprehensive Plan.

The Merits of Integrated Infrastructure

As the City of Austin strives to implement its compact, connected and sustainable agenda for the future, the necessity to integrate the various infrastructural systems that organize, construct and service the metropolitan landscape is of vital importance. The urban environment has become a complex organism requiring the expertise of many professionals, from multiple disciplines, to construct and manage. This complexity is reflected in the multiple departments that are responsible for the various components of infrastructural design within the city. The segregation of technical expertise, into distinct city departments, is a reflection of the segmentation of professional responsibility that has evolved with modern society. This disciplinary separation encourages the use of infrastructural solutions that are designed to solve singular dilemmas, without full consideration of the consequent effect on the totality of the urban environment. The urban landscapes, produced by this disciplinary separation, are comprised of systems of infrastructure that are engineered and implemented to function for individual purposes and are rarely integrated into the type of complex multi-functional systems needed to service the contemporary city.

Best design practices have shown that integration provides benefits that are social, environmental and economic. Planning for land-use development and mobility issues, for example, are often separately considered spatial planning disciplines. However, in practice there is a strong connection between land use issues and mobility factors, these issues strongly influencing each other in terms of livability and the subsequent financial-economic positions of neighborhoods. While optimizing a particular design may satisfy the technical engineering requirements necessary for infrastructure to perform a singular function, the resultant urban landscape is often dispersed, disconnected, and unsustainable.

The construction of a compact and integrated urban environment requires that the design and construction of infrastructural systems be able to operate on several levels. Systems must be both performative and connective. This is best accomplished by assimilating multiple purposes within an integrated system. Integrated infrastructure has the ability to respond to issues of mobility across a range of uses from the pedestrian, to bicycles, automobiles and public transportation, while additionally responding to the ecological needs of storm water mitigation, and the social roles of public space, all within the mechanisms of an integrated system.

10 Core Principles for an Integrated Infrastructure

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1 CONTEXTUAL

Infrastructure should be thoughtfully designed and adapted to enhance surrounding neighborhoods and environments.

Context is the physical scale, space and ambience of a place and establishes the built and natural forms within which individual buildings and infrastructure are sited. As such, the design of infrastructure affects the balance between natural ecosystems and the built environment.

2 CONNECTED

Infrastructure should be strategically planned to so as to facilitate multi-modal linkages and pathways through the city.

Infrastructure should be designed bind the districts, neighborhoods and public spaces of the city together so as to create a vital social, economic and ecologically responsible urban environment.

3 INTEGRATED

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Infrastructure should be designed to accommodate competing interests in the urban environment.

A well-designed and efficient urban infrastructure must allow for the intensification of functions in the urban environment by providing for the integration of social and technical systems. This requires an integrated approach to design that supports multiple simultaneous programs and functions.

4 COMPACT

Infrastructure should be designed to promote sustainable urban environments.

Infrastructure that supports compact urban development should be designed to sustain a relatively high-density urban environment comprised of mixed land uses. It must provide for an efficient public transport system and be structured to encourage walking and cycling, low energy consumption, and a reduced carbon footprint. A compact urban population, served by suitable public infrastructure will provide opportunities for social interaction, the building of community and increased public safety.

5 SUSTAINABLE

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Infrastructure should aspire to improve the quality of life for its citizens, while living within the carrying capacity of the supporting eco-systems.

Sustainable infrastructure provides for environmental, economic, and social equity in the urban environment. The built environment is an extension of the ecological systems that allows for a dense human population to live in a compact area in relative comfort. Sustainable infrastructure practices encompass: low impact development practices to protect water resources, public transportation systems, distributed energy systems, and the provision of wildlife corridors to protect the health of the natural environment.

6 HYBRIDIZED

Infrastructure should be designed for the efficient integration of multiple programs and uses.

Constructing a compact city requires that infrastructure be designed efficiently in order to provide for a multiplicity of uses within a single area. This technique of hybridization can contributes to the activation of urban areas that would otherwise be vacated, and provides for the continuous use of urban space for diverse programs and events.

7 HUMANE

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Infrastructure should contribute to the creation of a vibrant public realm with superior public spaces.

The design of infrastructure can either divide communities, or bring them together. Urban Infrastructure performs an important social role in the city, and proper consideration should be given to the role public space plays in the formation of an accessible and civilized urban landscape, one that serves the entire urban population.

8 ECOLOGICAL

Infrastructure should provide for healthy natural environments.

The unification of natural systems into the city helps to soften the impact of a dense cityscape and provides city dwellers with pockets of respite from the activities of urban life. A healthy environment is created through the use of green infrastructure to support communities of plants and animals, transforming parks and water bodies into spaces for community activities. The integration of nature is not only aesthetically pleasing, but also improves the air quality and mitigates heat island effects in the city.

9 TIMELESS

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Infrastructure should recognize the historic significance of important buildings and places.

Culturally important places are constructed incrementally over long periods of time. This aspect can reinforce the authenticity of a place while providing the basis for contemporary urban lifestyles.

10 INCLUSIVE

Decisions about infrastructure should be made with the participation of the effected community.

From the seemingly trivial activities of everyday life (e.g. using a plastic bag) to the overtly transformational (e.g. growing the city), citizens have a role to play and a responsibility. It is only through the sum total of individual choices, of individual actions, that change will come about.

Residents and stakeholders must be part of the planning and designing of their cities and their communities. They must also be part of delivering a new vision: by choosing to walk, by engaging each other, by generating awareness, and by demanding higher standards.

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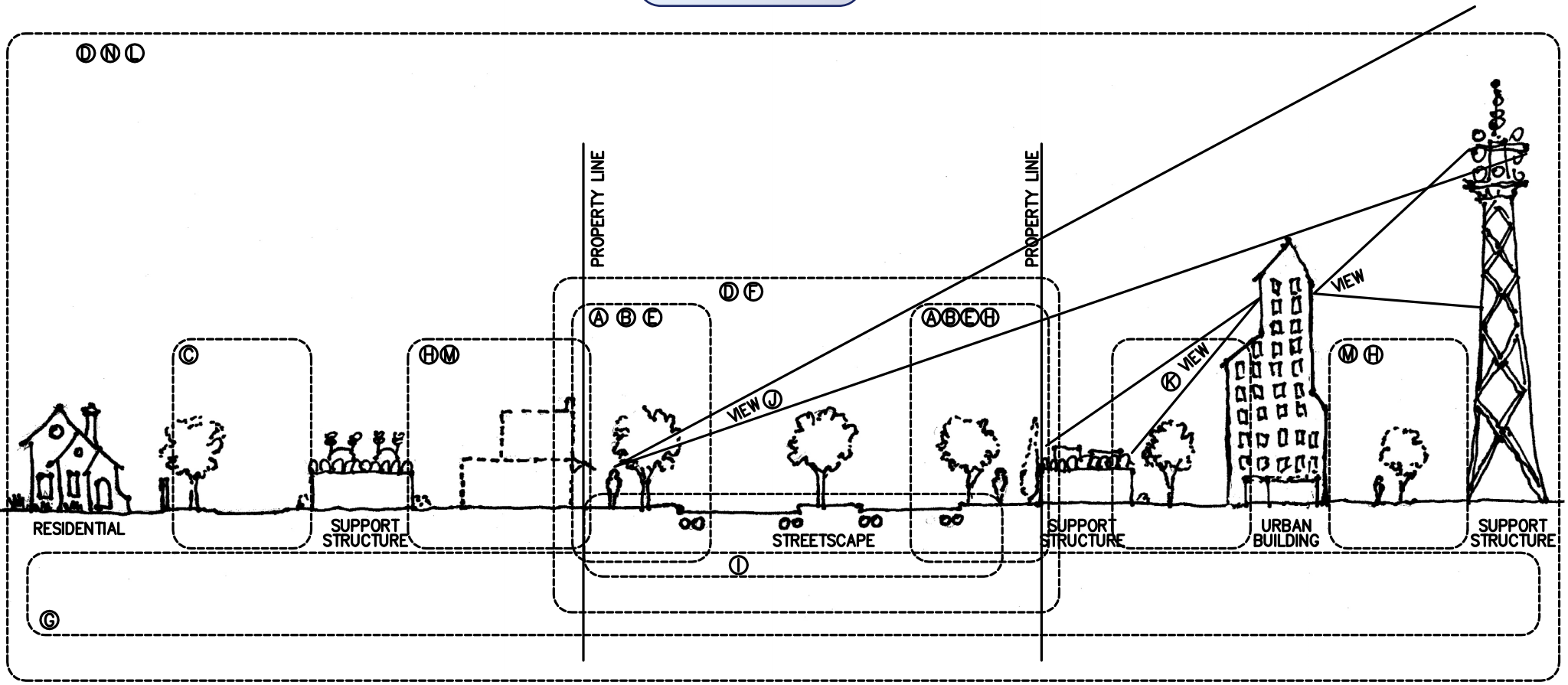

Ⓐ URBAN DESIGN GUIDELINES
Ⓑ COMMERCIAL DESIGN STANDARDS
Ⓒ COMPATIBILITY STANDARDS
Ⓓ PLANNING AREAS / NEIGHBORHOOD PLANS
Ⓔ PEDESTRIAN FRIENDLY
Ⓕ MULTI–MODAL TRANSIT
Ⓖ GREEN INFRASTRUCTURE
Ⓗ PARTNERSHIP DEVELOPMENT
Ⓘ INFRASTRUCTURE MAINTENANCE
Ⓙ VIEWS FROM RIGHT OF WAY
Ⓚ VIEWS FROM ABOVE
Ⓛ COMPACT AND CONNECTED
Ⓜ QUALITY PEDESTRIAN OPENSPACE
Ⓝ IMAGINE AUSTIN COMPHREHENSIVE PLAN
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Table of Contents

Section 1

Introduction (DA & HH)

The Design Commission provides advisory recommendations to the City Council on matters pertaining to the quality of proposed urban development, and as requested by the Council, assists in developing public policy and in promoting excellence in the design and development of Austin's built environment. In our capacity as stewards of Austin's built identity, Council has asked the Design Commission to broaden its scope to include policies and standards for the design and review of the infrastructural components of our city. This annual of Infrastructure Design Guidelines, is meant to complement both the city's Urban Design Guidelines, and the Imagine Austin Comprehensive Plan. The Infrastructure Design Guidelines address the design character and construction of components and systems that structure and support the ongoing development and growth of the City of Austin and aim to enable the City to attain its vision of becoming the most livable city in the country.

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These Infrastructure Guidelines outline the vision, principles and connective design criteria that are required for the design of our city's urban structure. The Infrastructure Design Guidelines provide the necessary framework for the design of a compact, connected and sustainable urban environment for Austin. The Design Commission's role in evaluating infrastructure proposals is to ensure that each development project is designed adequately and systematically reflects the values and principles espoused by the framework.

1.1 Design Commission Mission for Infrastructural Design

1.2 The Virtues of Integrative Design

1.2.1 Examples of Integrative Design (Great Streets)

Section 2

Contextual History (ET & HH)

2.1 Significance of Infrastructure

(CALC. percentage of Austin service area dedicated to infrastructure)

2.2 Define Infrastructure

2.3 Existing City of Austin Infrastructure Guidelines

Due to the recent adoption of the Imagine Austin Comprehensive Plan, which is built around the concept of "compact and connected", infrastructure suddenly takes on a new meaning, as it will be the element that connects the activity centers, whether it's transportation, utilities, or green space/watersheds. So, this is a good time to reassess what infrastructure is, or needs to be, as we face many environmental challenges for the next thirty years, something the new Comp Plan espouses as tantamount for Austin's future. Infrastructure must now support smart, positive development in a sustainable way.

But, some of this reassessment of infrastructure already has a good start, in such City of Austin planning efforts as those listed below. It's great when infrastructure is addressed in these master plans, as it can be specific to that area or concept, but when it doesn't apply to a certain area or concept, the Infrastructure Design Guidelines will need to be implemented.

- The Great Streets Master Plan- promotes walkability through smart streetscape design and integrates bicycle paths and public transportation, encouraging less reliance on the automobile. The Bicycle Master Plan goes even further in developing bike routes throughout the City.
- The Austin Resource Recovery Master Plan- promotes minimal waste by through recycling. The goal is to keep 90% of discarded materials out of the landfill by 2040.
- The Watershed Master Plan- assesses erosion, flood and water quality problems in Austin. It also prioritizes and implements effective solutions that address all three problems.
- Airport Boulevard, Riverside Drive, Burnet Road Corridor Studies- these separate studies envision transforming these areas from auto-dominated, aging corridors, to people-oriented destinations with lots of people living, working and playing within walking distance of transit. The Airport Blvd Study goes one step further in implementing form-based code, which can control environmental standards in a more sustainable manner than traditional zoning.

Transit Oriented Design Ordinance and Station Standards- TOD district boundaries are established and TOD district zoning classification is identified. The Station Area Plans include specific design standards and development goals for each TOD district (located around transit stops on the city's rail line), including land use regulation, density, building height, site and building design, and general standards.

2.4 Technical Criteria Manuals Currently in Use

Section 3

Values and Vision for the Design Commission (DA & JC)

3.1 Design Principles- Specific to Infrastructure

Design plays an important role in the development of a compacted and connected urban fabric that functions well. A sustainable, compact and connected city is an element of the vision of the comprehensive plan, Imagine Austin.

Design Guidelines are not to conflict with safety codes, federal guidelines, Homeland Security, or other similar safety standards.

Design principles should not rely on interpretation by staff, but instead should be a clear checklist. The design principles are meant to give a broad vision so that city departments can continue to make specific guidelines that are most applicable to them.

3.2 Introduction to Values

To paraphrase the Urban Design Guidelines, the city is a community of people and how people interact with buildings and the infrastructure is informed by values shared by the people. The Commission believes that, for Austin, important shared values include:

- Humane Character
- Density
- Sustainability
- Diversity
- Economic Vitality
- Civic Art
- A Sense of Time
- Unique Character
- Authenticity
- Safety
- A Connection to the Outdoors

The design of our Austin infrastructure, as well as the design of our buildings, must be based on the people's basic shared values

Although not necessarily exhaustive in scope, these shared values constitute the foundation for the infrastructure design guidelines that follow.

3.2.1 Humane Character

Humane character is of value because it is the basis for comfort in a built environment, and people are more inclined to live, shop, eat or recreate in a city whose infrastructure supports an environment that is physically and psychologically comfortable. The design of our infrastructure, whether streets, parks or even underground or overhead utility systems, should demonstrate that it was built for people; it should foster a sense in inhabitants that this place was made for comfortable human living. Designers, developers and transportation engineers can move the physical nature of the city closer to an ideal human habitat, while recognizing that urban places are special and more concentrated. In the same way, the use of materials, the scale of construction, human amenities, the mitigation of sunlight, the level of complexity, the design of streets, open space, water, waste water and power systems, communication systems, and the amount of plants and trees may all be manipulated to suggest that urban areas have been designed for human use. This understanding will contribute to a sense of well-being as we feel well matched to our surroundings – as we feel that they have been designed for us. It will also promote the use of our sidewalks and streets by pedestrians, increasing the activity level and economic viability of the city core. Humane character is achieved when people no longer distinguish infrastructure separately from the built environment, when they no longer perceive it as an obstacle.

3.2.2 Density

Density refers to the concentration of people, buildings and activities. With this concentration comes a great efficiency and vitality. We value density because density facilitates commercial and social interaction by simply placing many people together in a relatively compact space. The serendipity arising from this inevitable interaction is evident in all great cities of the world.

Density and concentration are not to be confused with overcrowding. According to Jane Jacobs in The Death and Life of Great American Cities, density is critical “to generate exuberant diversity in a city’s streets and districts.” In the same book Jacobs quotes Lewis Mumford on the function of the city. In summary, density promotes vitality and diversity. In the suburbs where most often there is neither density nor diversity, it is a homogenous majority that defines the character of the community. Dense urban places are, by their very nature, highly diverse in character and therefore more representative and democratic in character, more experientially diverse and exciting.

Infrastructure can enhance the nature of a dense urban environment or, when not well designed, can in effect turn density into unhealthy overcrowding.

3.2.3 Sustainability

Sustainability is a value because a city that is self sustaining—that which achieves an ongoing and maintainable balance between the total resources it consumes and the total resources it creates—is better able to survive over a long time period. A sustainable infrastructure is an infrastructure which promotes a healthy urban ecology. The city is a setting for our lives and the life of our families, and this constancy contributes to a sense of well being, a sense that we are part of a more civic whole. Sustainability considers that future generations in Austin should have flexibility and choice available to them as it was to our generation.

Sustainability addresses more than the simple effort to minimize energy consumption, emphasize "green" construction practices, and institutionalize recycling It also encompasses the reuse of existing infrastructure, the creation of an infrastructure with long life spans, and the creation of an infrastructure with built-in flexibility to allow for differing future uses. Sustainability assumes that our community is a human community and that the built environment is an extension of the infrastructure which allows a dense population to live in a relatively small area in relative comfort. Sustainability also encompasses economic sustainability, leading to the conclusion that our economic health requires an affordable infrastructure that supports the commercial spaces and that investment in these spaces can provide returns necessary to support it.

3.2.4 Diversity

The support of diversity (the distinction of characteristics, qualities, or elements) is a societal strength and one of the central principles of democracy. A diverse place for living ignites the imagination, capturing cultural and business pursuits. Diversity fosters inclusive ownership of private, public, and civic amenities. Diversity in our built environment and infrastructure applies to function, culture, style, and use. Development which is multiuse or diverse in other ways will result in a city that evolves into a rich and vibrant place to live, work, and play, and will support continued economic growth.

3.2.5 Economic Vitality

Economic vitality describes a condition where all sectors of the economic machinery are working well and are working together. It represents a sustainable return on investment for all measures of urban life. Without the energy and vigor of the economy, downtown revitalization is not possible. The powerful draw that Austin has as a unique and highly desirable city can be enhanced by ensuring that future development does not result in a city in decline. Successful private projects and the infrastructure to support them will create higher property values in general and thus increase the tax base. Private projects, however, must be profitable if they are to expand the tax base and enrich the civic presence.

3.2.6 Civic Art

Art for public defines the public realm and distinguishes the fine points in a city. Art creates a civic good which can inform the inhabitants and the world of their commitment to the expression of a collective identity. Expressing this identity celebrates what is unique about the community, transforming the everyday, honoring and valuing the past, as well as expressing the community aspirations for the future.

Civic art stimulates the cultural life of the region. Civic art, whether initiated by the city or by private development, promotes economic development, cultural tourism, downtown and neighborhood revitalization, international prestige and recognition, and an improved quality of life for a community.

Civic art gives places back to the people; it leads visitors as well as inhabitants into the discovery of a city. Over time Austin has evolved through the many purposes, ideas, ideals, and the traditions of those who have shaped and lived here; a work of art or architecture over time becomes an important link to a city's past. From it future generations learn of the perceptions and attitudes of their predecessors. When the work
is new, it can help people understand today's ideals and traditions and the changes going on around them.

Over time, our artists—whether they be fine artists, artisans, or folk artists— have shaped and created Austin in response to the rich natural resources of the region and the traditions and cultures they brought with them. They are a natural resource which should be supported.

Infrastructure presents a particularly rich opportunity for the inclusion of civic art. Vehicular and pedestrian pathways, wayfinding systems, public transportation stops and urban open space and parks provide rich opportunities for civic art..

3.2.7 A Sense of Time

A sense of time and its history is important to the protection of valuable resources and the continuity of our community. Moments of accelerated growth can cause the destruction of resources, the value of which is often realized too late, after the resources are gone. Much of the development which will occur in the future has the opportunity to protect and reveal the history and stories of the place, while responding to the needs of the present. Our city is more valuable to us when we sense this continuity throughout the past, the present and plans for the future. The design of infrastructure should not interfere with this sense of time.

Austinites value the fact that we are simultaneously fiercely protective of our diverse natural and cultural environments, and forward-thinking—open to new technologies and encouraging change for the better. By valuing a sense of time, we recognize the importance that each moment in time be represented. As we create the future, we ensure that what we do now will someday become a part of a history that we will want to protect. Development will, in this way, take on the role of the story teller. Everything we build will become a story within the larger story of Austin. The decisions we make as we build, that is, how we tell the stories, will determine the way in which our history is manifested in downtown Austin. The stories told must be thorough, truthful, articulate, engaging, enduring and challenging.

3.2.8 Unique Character

Through the singularity of its landscape and the diversity of its people, Austin has built a character which is unique, something increasingly rare and precious in a time when cities worldwide are becoming homogenous collections of buildings, highways and signs advertising similar lifestyles. Unique character succumbs to attack when cultural franchising is accepted as the most successful way for large enterprises to sell goods and promote services, buildings, businesses, food, clothing and entertainment. Our physical environment, under such conditions, becomes more homogenous and predictable. It can become a dehumanizing place, where individuals face a uniform environment beyond their control. . Much of our infrastructure, particularly vehicular and pedestrian circulation has the potential to exacerbate this siege on our unique character. It is imperative that the design of infrastructure projects be reviewed to ensure the maintenance of Austin's unique character.

Austin is a collection of what we find valuable in our region—the river, the hill country, the State Capitol, parks, special places, building types, styles, architectural details, and town form, as well as the activities of commerce and special events. Within this collection of activities is an individual spirit which is valuable because it gives us a stronger sense of identity in a world which is quickly losing individuality. One reason for Austin's current growth is the attraction others feel to the differences it provides. Many people are moving here from cities which offer no sense of membership because they lack an individual identity. This sense of place is therefore a strong economic factor as well as a positive force in the creation of a healthy community.

3.2.9 Authenticity

Because cities create, over time, a physical story of the life of that place and the people who live there, it is important that those who shape Austin do so with a sense of authenticity. This concept has value because a city shaped by it will be better able to create a sense of membership and community. By assuring that the physical story corresponds well to the authentic history, people will be more inclined to trust it, participate in it, and associate themselves with it. The closer a city aligns itself with what is genuine about itself, and the real lives of the people who live there, the stronger the connection people can make between themselves, their identity, the history of the place and the physical environment. In other words, the when, why and how a city formed. People are less inclined to associate with or feel connected to a place or thing which is contrived or unnatural.

As a value, authenticity suggests that Austinites would prefer to have a city whose image and physical context clearly references the time in which it was built and the activities and needs of the people who live and work there, rather than one created through false historical constructions or commercial imagineering designed to deceive the user through theatrical manifestations.

When authenticity has played a role in the creation of a city, buildings and spaces accumulate meaning and significance naturally over time. Here, the story of the place can be told by the physical environment and people, by association, can relive the story of their own lives by moving through the city. In the same way that one reaffirms one's identity by visiting a childhood home, one is reminded of one's past by the physical part of one's hometown. The reminding can create a strong attachment to a city and to a community through the retelling of small stories on a daily basis.

Authenticity in this context refers to a real city where people live and work and explore personal and collective opportunities and conflicts. It refers to a place where one's assumptions about their physical surroundings can be trusted. Real stories will collect around places that people really inhabit.

3.2.10 Safety

The creation of safe urban places, free from danger, is a difficult but important objective. Urban areas can be filled with strangers, inherently noisy and condensed. To attract people, it must also feel safe. We value safety because it frees people to fully engage themselves in chosen activities. A safe downtown provides a venue for these many activities. Making people feel safe among strangers and in the midst of such abundant activity can be facilitated by the design of streets, sidewalks and buildings, the many infrastructure elements that people confront, and by lighting and lines of sight. Public streets and other open places can help direct attention and promote the intuitive safety mechanism of observation. Design may facilitate safety by coding space, clearly identifying where it is safe to go.

3.2.11 Connection with Outdoors

A connection with the outdoors is of value because it brings natural forces and elements such as sunshine, breezes, clouds, rain, shadow patterns, water and vegetation into urban places. Immersion in the natural environment adds complexity and transition to our experience of a day in contrast to the experience of a more static built environment. Outdoor environments offer options for reviving the senses and the lives of people who spend long periods indoors.

Austin is already distinguished by its value for outdoor connections, as seen in its strong legacy of parks and greenbelts, waterfronts and tree canopy, where people can enjoy both active and quiet pursuits. Residents have traditionally protected public green spaces and the right to be outdoors, and

newcomers are attracted to Austin because of the opportunity it provides to connect with the natural environment. As the city becomes denser, access to the outdoors becomes even more important, requiring protection and enhancement of existing green spaces as well as the creation of new plazas and other urban forms of open space.

3.2.12 Compact and Connected

3.3 A Vision for Our Infrastructure

When the fundamental basis for the guidelines was established, through the articulation of shared values, a vision for downtown was formulated, establishing the goals and aspirations which, if applied throughout the city, could ensure that new urban places were vibrant and exciting.

The eleven shared values described in the previous section are broad concepts. A more specific list of goals follows. These goals were derived from the shared values, but hold a complex and indirect relationship with them, where the lines between goals and values frequently overlap. Each goal is stated and its main point briefly explained. Italicized in the margins are the specific shared values which the goal helps promote.

3.3.1 Promote an intuitive understanding of the layout of any urban place

The intensive use associated with thriving urban centers may be enhanced if the physical layout can be easily understood. Understanding requires that we form a mental map of the area. The logic of the place needs to be understood sufficiently to orient pedestrians.

3.3.2 Reinforce the sense of time and historical continuity.

This goal speaks to the preservation of historical buildings and other facilities and of historical planning, but equally important, speaks to the relationship among buildings built over time—including those built in the present time.

3.3.3 Foster physical continuity.

Physical continuity speaks to the freedom of movement in pedestrian, transit and automobile environments, but is most important in the pedestrian circumstance. Encouraging movement within an urban place allows comfort and promotes our staying there for a variety of activities.

3.3.4 Develop the public nature of all urban places.

The public nature of urban areas is most apparent in public open space—plazas, sidewalks, streets and parks. The design of the lower levels of buildings is also vital in promoting inclusion in the place.

3.3.5 Encourage a diversity of uses, activities and sizes of development.

Achieving this goal will require balancing the existing uses with additional uses that an urban area lacks, such as residential and destination retail. It will also require that we do so while allowing for differing economic status of the residents. Diversity should apply to retail, residential, commercial, office, entertainment, and all other sectors.

3.3.6 Encourage public and private investment in the future of Austin.

Perhaps no other goal provides more opportunity to demonstrate the value we place on civic behavior than this one. Where those who have gone before us have been willing to invest in the future—to regard the value of their investment over a long period—we generally have bridges, buildings and other structures which have endured and which we now regard as important to our history.

3.3.7 Reinforce the unique character of Austin.

To better promote a sense of connection to and membership with Austin, our urban places should be a unique signal for a unique place. Developing a unique character should start with what is already unique about Austin.

3.3.8 Create a safe urban environment.

All of the users of our urban places, men, women, children, young and old, those with physical challenges, natives and visitors, customers and service personnel— should be considered when designing a dense environment. A safe urban environment will encourage economic activity and foster commerce.

3.3.9 Create a comfortable urban environment.

Comfort includes shelter from the harsh Texas sun and other weather, a reorientation of urban places away from a fast moving, automobile oriented place and to a slower moving, pedestrian-oriented population, and an understanding of intuitive way finding.

3.3.10 Create a hierarchy of transportation which begins with pedestrians.

The hierarchy in order of priority is:

1. Pedestrians
2. Public transit systems
3. Bicycles
4. Vehicles

3.3.11 Actively promote civic art.

Civic art promotes economic development, cultural tourism, downtown and neighborhood revitalization, international prestige and recognition, and an improved quality of life for a community. Art in a city describes the way in which the city honors spirit and soul. Public art can create a civic message that expresses community identity, myth and culture.

3.3.12 Encourage a vibrant cultural atmosphere

Arts, entertainment, and other cultural activities add richness and viability to our everyday lives. Such activity is an advantage to Austin because it promotes economic development, cultural tourism, downtown and neighborhood revitalization, international prestige and recognition, social service opportunities, and an improved quality of life for the community.

3.3.13 Encourage intense street level activity.

The street is a place for extra activities — sidewalk seating, vendors, waiting for a bus. Activities that don't require enclosed spaces or are enhanced by being outside should be added to the activities that already happen outside to create intense street level activity.

3.2.14 Maintain a sense of connection to the natural environment.

Austin's natural environment is a primary attribute. Every economically feasible effort to preserve, maintain and enhance Austin's natural environment should be pursued.

3.3.15 Encourage an architecture whose design responds to functional needs and reinforces urban activities.

Buildings designed to sculptural effect are not discouraged, but formalist aspirations should not be attained at the expense of functional requirements and a positive position within the requirements of other buildings and users. Architecture should respond to the whole array of human needs.

3.2.16 Encourage quality building.

Buildings in urban centers should have a permanence that some other areas of the city do not require. Quality adds to the overall value of any urban place.

3.3.17 Promote urban residential uses.

A residential component provides for 24 hour activity, a consumer base for retail activity, eyes and ears on the street, and reduces the need for transportation.

3.3.18 Create an economically vibrant urban area.

None of the values can be promoted without the economic engine to drive urban redevelopment.

3.3.19 Strive for environmental balance.

All development should take into consideration the need to conserve energy and resources. It should also strive for a small carbon footprint.

3.3.20 Create an interconnected system of attractive open spaces.

An interconnected system of attractive open spaces supports the pedestrian activity which creates vitality and provides a natural experience which can make dense urban development more comfortable and successful.

Section 4

Design Guidelines (JS & BW)

4.1 Area Wide Guidelines

4.1.1 Site Selection

- Issue: Guidelines are needed to help the city select and negotiate on the purchase of proper infrastructure sites. Proper siting is intrinsic to infrastructure that successfully blends with the urban environment. Decorating a blank wall or fence that faces a street will not help make that section of street more pedestrian friendly. Due to contract negotiations, the land purchase process is not open for public review.

- Recommendations:

1. Land for infrastructure should be acquired with a strong consideration on how the location selected supports a high quality urban environment.

2. Area for infrastructure within a private development should be vetted by the city.

3. A potential infrastructure site's roadway type classification and neighboring uses can guide consideration of the appropriateness of a site. The city should develop a site selection decision matrix in cooperation with the Design Commission.

4. Each city department should have a master plan, and long-range projections, in relation to infrastructure, should be coordinated between departments.

4.1.2 Infrastructure Development Should Align with Sustainability Goals

- Issues: Environmental and social values of a project should be communicated in dollars. Projects should be assessed for their contribution to the economy and their total project cost (life-cycle). (The sustainability goals for the city are …)

- Recommendations:

1. Capture water from public right of way in a sustainable manner using above ground pre-treatment with elements such as porous concrete, dry swales, and rain gardens.

2. Apply sustainability valuation to a project that is proposing value engineering.

3. Maximize the use of cool pavement strategies.

4. Design larger projects (over $5 million valuation ?) to be context sensitive using elements as public art, place-making features, and outreach.

5. Utilize native plantings.

6. Larger projects (over $5 million valuation ?) shall have a monitoring and commissioning plan.

7. Minimize use of toxins and VOCs.

8. Use recycled and reclaimed materials.

4.1.3 Buffering Against Adjacent Uses

- Issue: Some infrastructure projects may be incompatible with nearby uses, like the placement of an odor control facility next to residential or the placement of a walled substation on a pedestrian priority way or core transit corridor.

- Recommendations:

4.1.4 Minimize Public Risk

- Issues: Safety.

- Recommendations:

1. Landscaping should not block views of motorists to other motorists, cyclists or pedestrians.

1. Provide pedestrian areas of refuge in the center of right of ways over 120' wide.

2. Provide bulb-outs at street intersections where streets have street-side parking.

4.2 Mobility Components

4.2.1 Bridges

- Issues:

- Recommendations:

4.2.2 Rail

- Issues:

- Recommendations:

4.2.3 Bus

- Issues:

- Recommendations:

4.2.4 Parking Lots

- Issues:

- Recommendations:

4.2.5 Wayfinding

- Issues: Landmarks, protected views, signalization

- Recommendations:

4.3 Mobility Systems- Infrastructure Along Roads, Pathways

4.3.1 Seen and experienced infrastructure – systematic

- Roads and Pathways

1. Elements

4.3.2 Roads and Pathways

- Most prominent infrastructure that we rely on every day.
- It ties our destinations together.
- However it is often overlooked

1. Spend efforts designing the destinations
2. Cost

- Opportunities

1. Express local character (of city or neighborhood) to the journeymen

a. Indulge them to stop
b. Express pride in the area
c. Respect historical significance
d. Four Squares

2. Break up monotony of the journey

a. Trees
   - Rhythms or clusters
b. Lighting
c. Signage
d. Paving

3. Great Streets

- Dangers

1. Along long lengths, using same specs

a. Can become monotonous without changes

4.3.3 Reference Urban Design Guidelines – Guidelines for the Public Streetscape

4.4 Ecological Infrastructure

4.4.1 Watersheds

- Issues:
- Recommendations:

4.4.2 Parks & Conservation Areas

4.4.3 Landscape Systems

4.5 Utilities

4.5.1 Unseen and Not Experienced

1. Underground
2. Invisible
3. Overhead
    a. Although “seen” experience can be lessened or eliminated
4. Water detention
    a. Can be underground as well

4.5.2 Importance

1. Life blood of a City
2. Organization of city
    a. Compact and Connected
3. Ease of maintenance
4. Ease of expansion

4.5.3 Factors to consider

1. Manifests what is seen
    a. Importance of organization
2. Minimize impact of Utility Work
3. Coordinate for Easy Access and Maintenance
4. Bury utility infrastructure
5. Overhead lines
    a. Water quality and detention
6. Use trenchless technologies when possible
7. Develop and Enforce Site Protection Plan
8. Protection of Existing and Future Planted Areas

9. Protect Water Sources During Construction

10. Overhead utility – additional consideration

    a. Support system
        - Design
        - Rhythm
    b. Height of system

11. Visibility scale

4.5.4 Water Detention, Treatment

4.5.5 Water Towers

4.5.6 Utility Buildings

Section 5

Process (JS & JW)

5.1 Qualifying Projects

5.1.1 Use the checklist (similar to Urban Design Guideline Checklist currently used)

- Based upon Infrastructure Guidelines
- Comment on how addresses each point
- Comment is need help with specific items

11.1.2Staff to Promote Design Coordination (City Architect)

5.2 Requirements for Submission to the Design Commission

5.2.1 Reasons to have set process standards

- Clear set of tools
- Provide efficient path
- Meaningful discussion
- Assistance to help focus

5.2.1.1 Clear Guideline Implementation Process

- Issue: Guidelines that are unclear or that do not provide a mechanism to deal with special circumstances become irrelevant.
- Recommendations:

1. The Design Commission should comment on cases where the Infrastructure Guidelines seem to be in inherent conflict with the proposed infrastructure project.
2. Departments should create design criteria based on the guidelines to incorporate in their standard workflow and to coordinate with other departmental requirements and standards.
3. Departments should implement management tools that help coordinate work between departments in the most early planning phases of infrastructure projects.

5.2.2 Design phase when to come to Design Commission

- 75% Schematic Design Phase
- Early enough so direction suggestions can be considered

5.2.3 Cross Department Cooperation

- List of Departments in the Team and role that they play
- Department representatives available to present

5.2.4 Exhibits required – focus is to depict the relationship to the public experience

- Area map within 500'
  - Zoning
  - FLUM
- Site plan thru adjacent right of way
- Site Section extending thru right of way
- Elevations with height (scale figures) and materials

5.2.5 Schedule

- Design Phases
- Construction start and completion

5.2.6 Expected Outcomes

5.2.7 Process for Stakeholder Engagement

5.2.7.1 Current Stakeholder Project Involvement philosophy

- Project team assigned for large and complex projects
- Stakeholder process is handled on case by case basis depending upon:
  1. Location
  2. Number of stakeholders impacted
  3. Nature of the project impact on the public realm/interface
- Activities initiated through the PIO offices of sponsoring departments (AWU, AE, Parks, Transportation, AAR) and Public Works working collaboratively.

5.2.7.2 Stakeholder Process/Objectives

- Notification of stakeholders
- Stakeholder meetings to provide information on type of infrastructure project and the need (function)
- How project adheres to neighborhood plan
- Discuss and gain input on how project may impact stakeholders.

- Determine areas of input team would like from stakeholders
- Project team to demonstrate for feedback, to the extent possible,
    1. Project drawings-(schematic design)
    2. Models
    3. Landscaping samples
    4. Fencing samples
    5. Lighting fixtures
    6. Sustainability features
    7. Green standards, etc.

5.2.7.3 Stakeholder Input and Fiscal Responsibility

- Issues: Public process should be tailored based on the type and amount of impact to the public realm a project would have. An example of tailoring a public process based on the intensity of the project, is that PARD uses a third party facilitator when there is no existing park master plan. Otherwise projects are vetted with the public by PARD staff, using their standard tools and guidelines. Costs associated with incorporating a public process or additional design in infrastructure planning should take into account lifecycle costs such as maintenance, and the positive economic impacts that well design urban spaces can have on a city.
- Recommendations:
    1. The extent of a needed public process can be determined by the amount of feedback or concern that is generated after the city sends out notification of an infrastructure project in plain speak with graphics that communicate what is being proposed.
    2. Larger, or more impactful projects, should follow a public input process regardless of notice feedback received from the public. Examples of more impactful projects are electrical substations, water towers, and new bridges.
    3. The Design Commission can facilitate public input by having a project as an agenda item at one of their meetings.
    4. Early in the planning process, design integration and stakeholders should be identified.
    5. Stakeholder and Design Commission interfaces can be streamlined with clear guidelines and expectations.
    6. Implement a system to measure design success of major infrastructure projects

5.3 Integrative Department Processes

5.3.1 Integration of Technical Criteria Manual Across Departments

5.3.1.1 Strategic Facilities Governance Committee

5.3.1.2 Capital Planning Office

5.3.1.3 Real-estate

5.3.1.4 Building Department

5.4 Challenges and Benefits of Integrated Design

- Site Section extending thru right of way
- Elevations with height (scale figures) and materials

5.2.5 Schedule

- Design Phases
- Construction start and completion

5.2.6 Expected Outcomes

5.2.7 Process for Stakeholder Engagement

- Current Stakeholder Project Involvement philosophy
  - Project team assigned for large and complex projects
  - Stakeholder process is handled on case by case basis depending upon:
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  - Activities initiated through the PIO offices of sponsoring departments (AWU, AE, Parks, Transportation, AAR) and Public Works working collaboratively.
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  - Stakeholder meetings to provide information on type of infrastructure project and the need (function)
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  - Determine areas of input team would like from stakeholders
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    1. Project drawings-(schematic design)
    2. Models
    3. Landscaping samples
    4. Fencing samples
    5. Lighting fixtures

6. Sustainability features
7. Green standards, etc.

5.3 City Departments to Update Technical Criteria Manuals and Demonstrate Design Principle Integration.

5.4 Tools

OPEN HOUSE – PILLARS of the DESIGN COMMISSION – for discussion and assignment of duties

Design Commission – who we are, what do we do… etc. We establish the potato of Mr. Potato Head… not the arms legs eyes or what every you want to adorn the potato with. We are stewards of the public realm.
Breakdown of the Vision Pillars

1) The Vision (because we don't want people to be guided by the tools before the vision) – Beginning with what we are a communal beings and how we live. More or less what Juan has been talking about.
    a. Sustainability – because it is used very loosely, we define what this means to us
        i. Evolution of the urban form
        ii. Creation of sustainable experience
    b. Density – balance is the key
    c. Shaping tools
        i. History
        ii. Comprehensive Plan/Imagine Austin
        iii. Overlays and Districts
        iv. Neighborhood Plans
        v. UDG
        vi. Commercial Design Guidelines
        vii. Great Streets
        viii. Density Bonus, Fee in Lieu
2) Beauty – Because Design Matters – Girard Kinney always touched upon this
    a. (design is misleading since it includes urban design.. some people think its just the vertical stuff)
    b. Doesn't matter how well things are organized, if beauty is not there, then there is no point to our psychological health
    c. Beauty of the built environment balanced with the Natural environment
    d. Quality
3) Pedestrian Realm – The need to begin to design from this perspective. The past society has been centered around the automobile, in motion and scale.
    a. Walkability (streetscape against Automotive Realm and Private / Public structures)
    b. Scale
    c. Public Private interactions
    d. Tools
        i. Way Finding
        ii. Many elements of the UDG
4) Vehicular Realm – we cannot ignore it, be we can redefine it
    a. Experience from within the vehicle –different speeds bring different experience of the same setting
    b. Different modes – (bus, car, bike, etc)
    c. Managing movement and storage once within the node
        i. Parking for present and future
        ii. Underground, surface, above
    d. Tools
5) Open Space – used so loosely, we need to define it, qualify it, and find way to rate it.
    a. At one point there was discussion about how to qualify it like the heights, percentage of green, public vs public accessible, etc.(possibly during density bonus discussions)
    b. Tools
6) Connectivity
    a. Importance that projects show connectivity – otherwise it's isolated
    b. Connectivity thru design
    c. Connectivity thru movements
    d. Tools

_____

Working Group Assignments

- 3 people per item with each person in three discussions…
- To help save time, the initial lineup as below with two items per person… personal pick of the third item!
- Assignment to Working Groups, then for these discussions we adjust members so we don't have to create more working groups.

Vision – Cotera, Taniguchi, _____

Beauty – Almy, Hasbrouck, _____ (invite Girard Kinney as public participant)

Pedestrian Realm – Wiginton, Cotera, _____

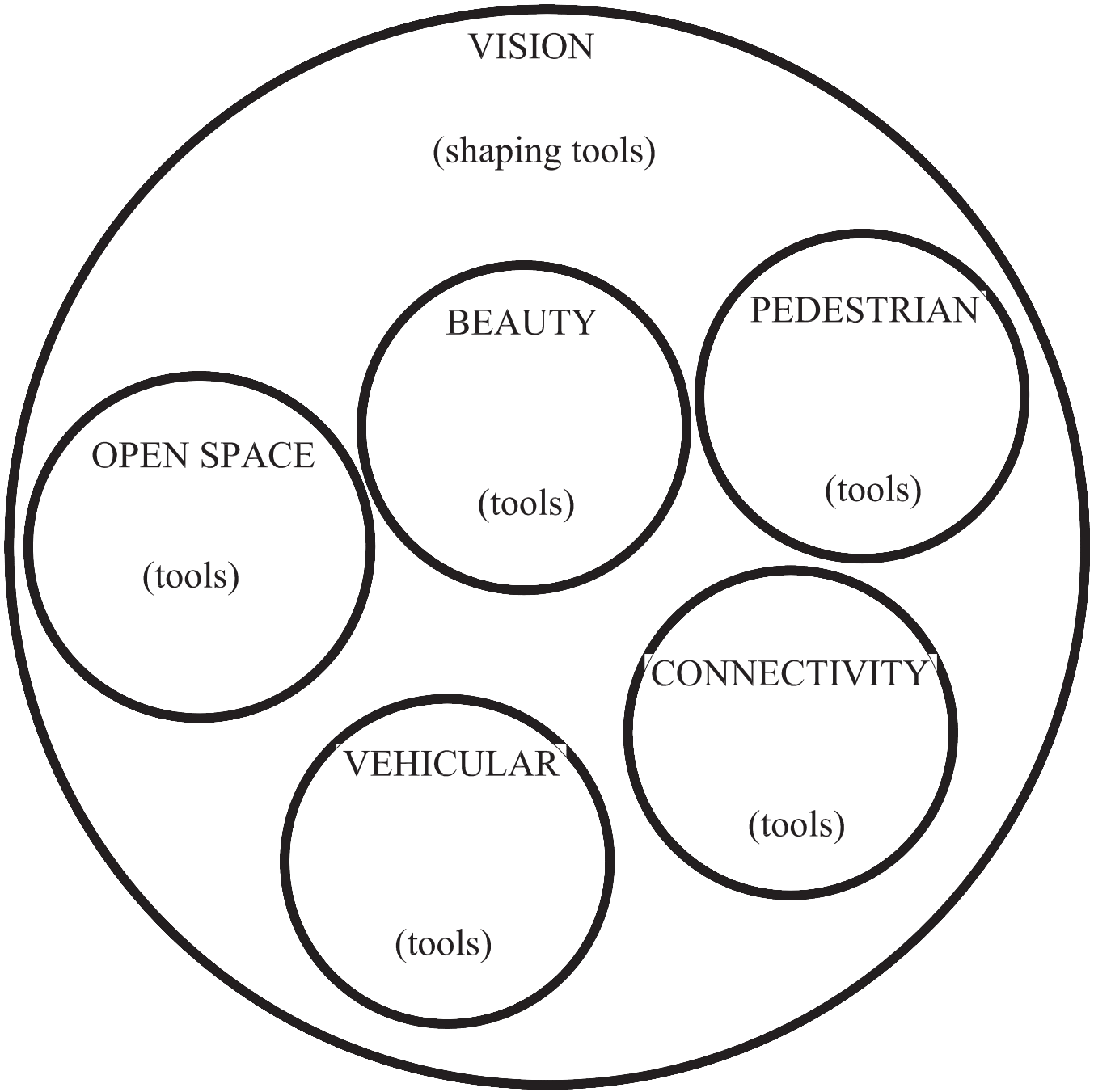
Vehicular Realm – Whatley, Shieh, _____

Open Space –Hasbrouck, Wiginton, _____ (invite Eleanor McKinney as public participant)

Connectivity –Taniguchi, Almy _____

Infrastructure – Shieh, Whatley, _____

- *Infrastructure added to workload recently by Council…*


VISION
(shaping tools)
BEAUTY
(tools)
PEDESTRIAN
(tools)
OPEN SPACE
(tools)
CONNECTIVITY
(tools)
VEHICULAR
(tools)

Our Cities Ourselves: 10 Principles for Transport in Urban Life

New publication shows how cities can create sustainable transport

NEW YORK, June 24 /PRNewswire-USNewswire/ -- In a publication released today, visionary urbanist Jan Gehl and Walter Hook, Executive Director of the Institute of Transportation and Development Policy (ITDP), together set out ten keys to building successful cities. "*Our Cities Ourselves: 10 Principles for Transport in Urban Life"*shows how cities from New York to Nairobi can meet the challenges of rapid population growth and climate change while improving their competitiveness.

In a concise, vibrant and accessible format, the booklet promises to be a "must read" for all those involved in city design and urban planning, and forms the backbone of the ITDP exhibition "*Our Cities Ourselves,"* which opens on June 24 at New York's Center for Architecture, before traveling to China, Brazil, Mexico and beyond.

"Cities of the twenty-first century should be lively cities, safe cities, sustainable cities and healthy cities," says Jan Gehl. "All of these qualities can be achieved if we embrace these ten principles, which means putting people first."

Cities face massive population growth, particularly in the developing world. By 2030, 60 percent of the world's population, or 5 billion people, will live in cities. The transportation sector currently accounts for around a quarter of all greenhouse gas emissions, a growing proportion derived largely from cars and trucks.

Without a significant move away from car-dependent suburbanization to pedestrian-friendly and public transit-oriented urban planning, cities will face growing difficulties financing the necessary infrastructure. As a result of inaction, preventing the two-degree rise in global warming that threatens cataclysmic climate change will be nearly impossible.

"When I was growing up, we used to think that in the future we would all be traveling around on monorails, or in flying cars. In cities with 25 million people, this sort of thing just isn't workable," says Walter Hook, Executive Director of ITDP. "Now, our dreams are full of elegant pedestrian promenades along waterfronts alive with fountains and children playing, of great bike paths connecting to public squares alive with cafes, musicians, and performance art."

Some cities are waking up to this reality, and changing direction. "*Our Cities Ourselves: 10 Principles for Transport in Urban Life"* showcases examples of cities reaping the benefits of integrating urban planning and design that gives priority to pedestrians and transit. It is designed as a guide to cities and countries wishing to make their cities more competitive and livable, while helping to solve the problem of climate change.

"We are thrilled to launch the 'Our Cities Ourselves' global program at the Center, but also to see this important booklet arrive. The principles outlined--and beautifully so--offer a promising future for New York and other growing cities," says Rick Bell, FAIA, Executive Director of the Center for Architecture and the American Institute of Architects' New York Chapter. "I think I speak for the architects of New York when I say we look forward to realizing these principles in our designs."

What are the ten principles of sustainable transport?

Walk the walk: Create great pedestrian environments.
Powered by people: Create a great environment for bicycles and other non-motorized vehicles.
Get on the bus: Provide great, cost-effective public transport.
Cruise control: Provide access for clean passenger vehicles at safe speeds and in significantly reduced numbers.
Deliver the goods: Service the city in the cleanest and safest manner.
Mix it up: Mix people and activities, buildings and spaces.
Fill it in: Build dense, people and transit oriented urban districts that are desirable.
Get real: Preserve and enhance the local, natural, cultural, social and historical assets.
Connect the blocks: Make walking trips more direct, interesting and productive with small-size, permeable buildings and blocks.
Make it last: Build for the long term. Sustainable cities bridge generations. They are memorable, malleable, built from quality materials, and well maintained.

Copies of the book are available from June 23, 2010.For a review copy of "*Our Cities Ourselves: 10 Principles for Transport in Urban Life*," contact Claudia Gunter, Communications Officer, ITDP, cgunter@itdp.org, (646) 839-6479.

Our Cities Ourselves will be on view from June 24 to September 11, 2010 at the Center for Architecture in New York City. Visit www.ourcitiesourselves.org for more information. Our Cities Ourselves on Twitter: www.twitter.com/ourcities.

Founded in 1985, the Institute for Transportation and Development Policy promotes environmentally sustainable and socially equitable transportation solutions in cities worldwide. For more information, please visit www.itdp.org.

NOTE TO EDITORS: IMAGES AVAILABLE FOR PUBLICATION

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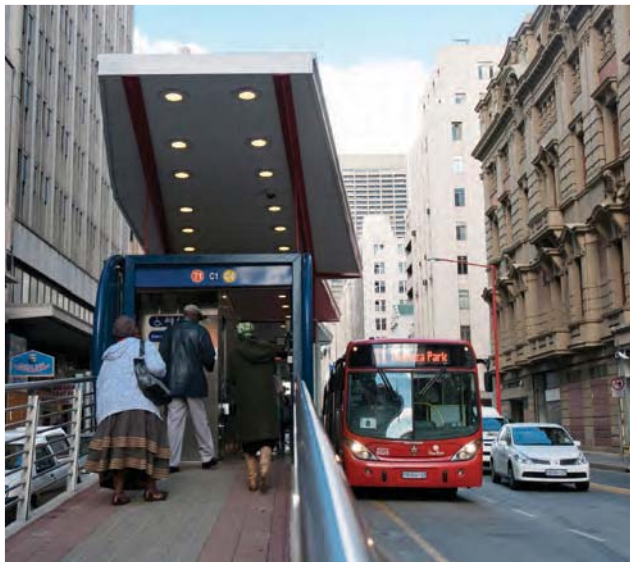
Principles for Transport in Urban Life



our cities ourselves
THE FUTURE OF TRANSPORTATION IN URBAN LIFE

A PROJECT OF

ITDP Institute for Transportation & Development Policy
Promoting sustainable and equitable transportation worldwide.

GEHL ARCHITECTS
URBAN QUALITY CONSULTANTS

Nelson\Nygaard consulting associates
Mobility | Accessibility | Sustainability

ClimateWorks FOUNDATION

CREDITS

Chief Executive Officer
Walter Hook

Chief Strategic Initiatives Officer
Jessica Morris

Technical Director, Urban Design
Luc Nadal

Stragetic Initiatives and Communications Associate
Stephanie Lotshaw

Director
David Sim, Architect SAR/MSA

Project Leader
Jeff Risom, MSc City Design and Social Science

Project Team
Ola Gustafsson, Architect MSA
Henning Thomsen, Architect MAA, MBA
Ewa Westermark, Architect SAR/MSA

Principal
Michael King

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What is this book about?

Addressing the global issue of sustainability. . .

. . .by emphasizing the local issue of livability. . .

. . .with mobility as a link between the local and the global.

Foreword

Livable today, sustainable for the future
The principles outlined here will help cities significantly reduce greenhouse gas emissions while improving the quality of life.

Citizens of the world do not want to sit in bumper-to-bumper traffic. They do not want to walk in mud, not feel threatened on a simple bike ride to work. They want to be in citites that provide for creative interaction, affordable living and healthy environment. The successful city of the 21st century will be replete with choices, including non-motorized, post-fossil fuel travel options.

Cities that meet the challenge of sustainability will leap ahead of others by attracting people who demand a healthy and culturally-rich lifestyle.

Sustainability does not have to hurt. Reducing CO_2 emissions, conserving land, and making transport more efficient go hand in hand with improving quality of life. We aspire to lay the foundation for achieving global sustainability not through uniform technological solutions but through a global celebration of local difference and innovation based on a common set of principles.

The *Our Cities Ourselves* program invites design teams from ten cities around the world to apply these principles to ten unique locations. This book illustrates the principles that lay behind the designs. Our hope is that national and local leaders worldwide will look to it for inspiration.

On behalf of ITDP

Walter Hook

Brighton, UK

Shift the focus

from:

What we have

to:

What we want

Traffic dominates society

Choice dominates congestion

Economy primarily based on consumption

Economy based on quality of life

Designing objects

Making places

Disagreement on global sustainability

Local livability translates into global sustainability

The consequence:

Sustainability not seen on the streets

The consequence:

Streets become the locus for sustainability

Remaking our cities for livability

Moving towards sustainable and healthy lifestyles

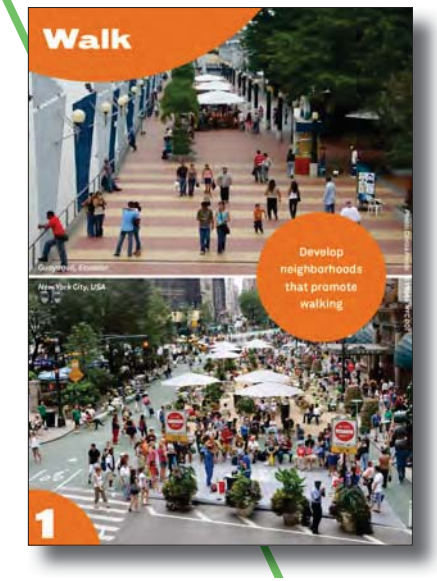
Road space is a scarce public good intended to provide access to important locations by the rich and poor alike. As countries get richer, roads get taken over by motorists. Pedestrians and cyclists, whether they are rich or poor, are driven off the roads in fear for their lives. To return our streets to their basic function of equitable access, they need to be redesigned to give priority to those means of travel that use road space more efficiently, cost less, and generate less pollution and noise.

A growing number of cities around the world are finding that cultural amenities, great public spaces, and a high quality of life are more important than highways and parking lots to attracting educated young workers who will form the backbone of the competitive 21st century economy.

Too often, buildings are designed as symbols of cultural and political power. In the future, city residents will vote with their feet, choosing to live and settle in cities where the greatest architectural minds have focused on creating great places to meet and congregate, rather than on creating great monuments.

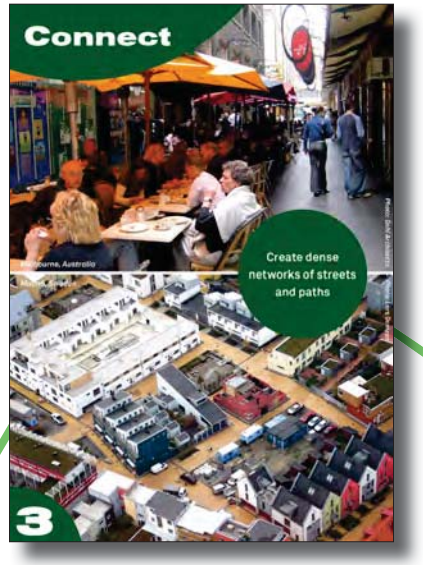
Achieving global sustainability isn't about accepting blame or responsibility for global warming; it is about making our cities more livable and our economies more prosperous while reducing carbon emissions.

Principles overview

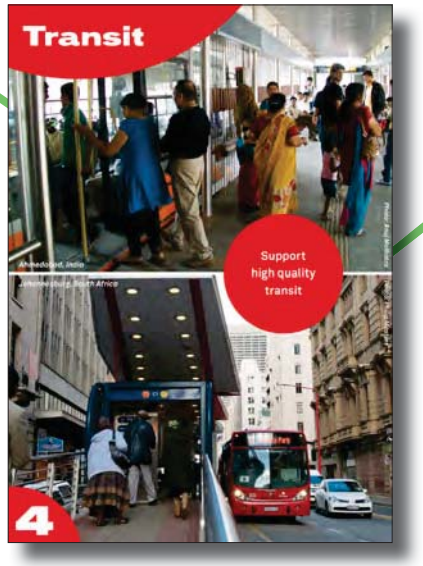


Great cities start with great pedestrian environments. Walking is the most universal form of transport.

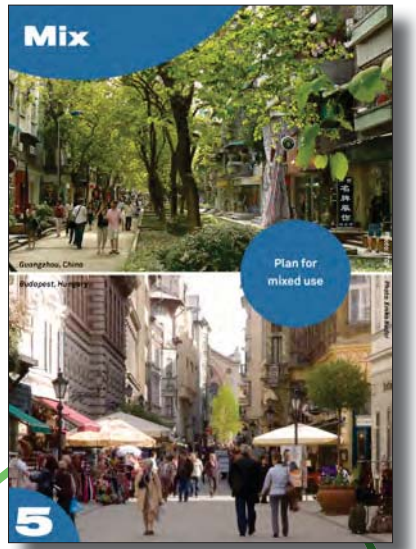
The more connected the blocks, the shorter the distance between destinations, making walking and biking more appealing.



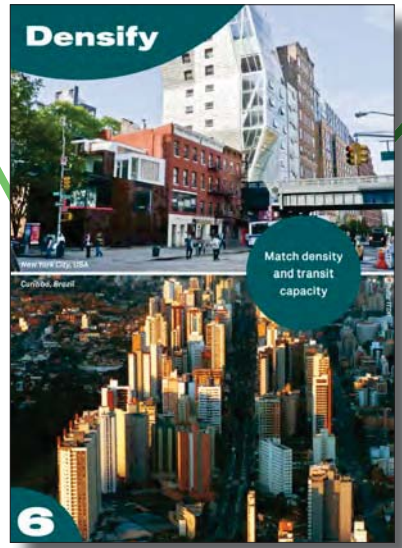
Bicycles allow for the convenience of door-to-door travel, but use less space and fewer resources. They are the healthier and more sustainable alternative to cars and taxis for short trips.



Mass transit can move millions of people quickly and comfortably using a fraction of the fuel and street space required by automobiles.

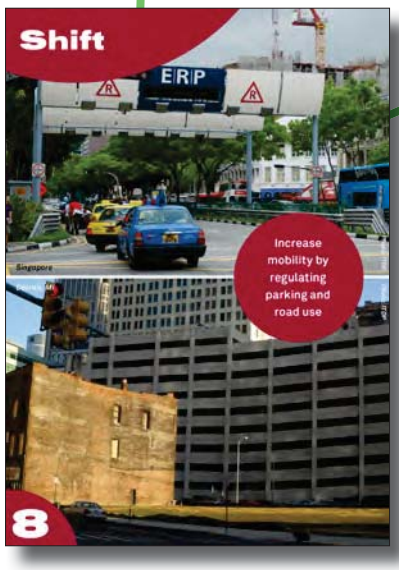


Sustainable transit needs to connect people to attractive places that encourage them to stay. Making a street "great" includes having a diversity of places and activities along it.



High density communities shorten trip distances, save travel time, and preserve millions of square kilometers of arable land. They use resources more efficiently, reducing the carbon footprints of its residents.

New city centers placed far from existing cities are inconvenient and rarely thrive. City planners must locate compact new sub-centers within or adjacent to existing cities.



By managing private car use and expanding car sharing, cities can minimize traffic and congestion problems while creating space for pedestrians, mass and non motorized transit.

Our stories over the next 20 years

Talking about aspects of a better life:

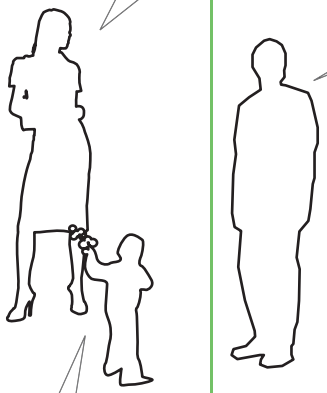
30-year-old career woman:
It would be much more convenient to take my child to day care on the bicycle on the way to work, but I'm just not sure it's safe, so I drive the minivan. It costs a lot and I spend more time looking for parking.

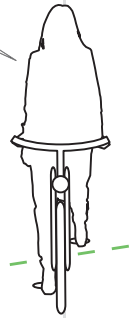
50-year-old politician:
I've thought of bicycling to the office, or at least as far as the express bus stop. It would be good for my cholesterol, and driving in all that traffic can really be a headache. But it seems really dangerous biking in the streets.

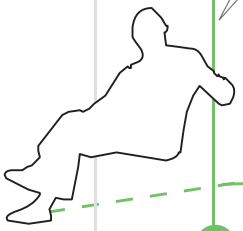
38-year-old:
I've decided to start biking to work. I'm not as young as I once was and I have to work harder to stay fit.

11-year-old:
I'd like to bike to school. With the new bike lanes, my parents are thinking about it, but they're still not sure.

58-year-old:
I've decided to bike to the express bus. I get a little exercise. On the bus, I can do some work or read the paper.







3-year-old child:
I want to play in the street, but mom and dad say it's dangerous, and there aren't any other places to play.

Non-motorized and public mobility have improved- private car use is down

Reducing greenhouse gas emissions through changes in lifestyles

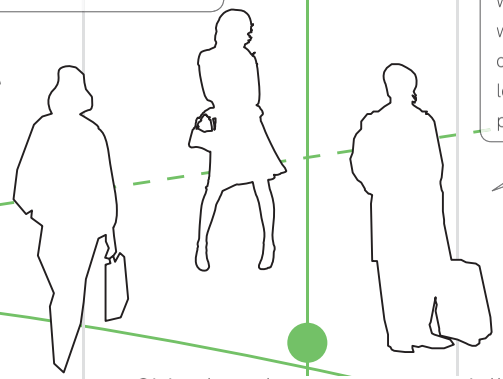
By 2030, if current trends continue, the world will produce some 49 gigatons of carbon dioxide. We need to reduce 19 gigatons of CO_2 per year to avoid cataclysmic climate change. The transport sector is responsible for about a quarter of this. Based on realistic estimates of what is achievable in other sectors, transport needs to reduce its total CO^2 emissions by at least 3 gigatons. As families and municipal leaders work together to solve their everyday transportation headaches, they are also bringing down the risk of irreversible climate change.

Today 2015 2020

48-year-old:
The new bus rapid transit system is so much faster, I wouldn't dream of driving to work on most days. Still, with the congestion charges, when I do need to drive the zipcar for something, I can get there in a hurry.

21-year-old:
I wouldn't think of going on a date in a car. Cars are so 2010. We'll just pick up a couple of those shared bikes over by the school, bicycle together along the new waterfront promenade, then drop them back near the house.

68-year-old:
Now that I'm retired, I have time to walk down to the new café down by the waterfront, work on my novel, take in a concert in that park where that parking lot used to be. I really enjoy the new public spaces in the city.



Business as usual

Cities have become more socially inclusive for everyone

Cities for people are livable today while ensuring a high quality of life for future generations

paradigm shift
regarding transport
quality of urban l ife

2025

2030

Global CO_2 emissions from transport

14 Gigatons

12 Gigatons

10 Gigatons

1 Walk

Develop neighborhoods that promote walking

We are all pedestrians. Walking is the most natural, affordable, healthy, and clean way of getting around, but it requires more than just feet and legs. It requires walkable streets–the fundamental building blocks of a sustainable city.

A great walking environment must protect pedestrians from motor vehicles. Vehicle speeds need to be radically slowed or else streets need sidewalks. Sidewalks need to be unobstructed, continuous, shaded, and well-lit. Vehicle speeds at crossings must be slowed with tighter turns, narrower lanes, restrictions on free turns, and speed bumps. Crossings should be made safer with leading pedestrian crossing signals, pedestrian islands and curb extensions that minimize crossing distances. These facilities need to be ramped to ensure accessibility for all–including a person in a wheelchair or a family using a stroller. The pedestrian network should foster the most direct access to all local destinations, like schools, work, and transit stations, and should offer choices of pleasant and interesting routes. Streetscapes should be thoughtfully and artistically designed to draw more people to walk for both utility and pleasure.

The most successful and best-loved cities in the world have vibrant and walkable streets. They put great and constant care into improving them. Great cities start with great pedestrian environments.

Shorten street crossings

Ensure simple, direct street crossings always at grade. Rio de Janeiro, Brazil.

Canopies create critical shade for walkways. Dubai, United Arab Emirates.

Unlike other modes of transport, walking is not simply a means of getting from 'A' to 'B'. Guayaquil, Ecuador.

Emphasize pedestrian safety and convenience

Continuous sidewalks over side streets gives pedestrians priority. Copenhagen, Denmark.

Space for activities and spontaneity invites people to spend time, which in turn promotes safety, economic activity and diverse street life. Paris, France.

Encourage ground-level activity and create places to stay

A high quality network of pedestrian and bike-only streets called 'alamedas' leaves cars in the dirt. Bogotá, Colombia.

Establish main pedestrian boulevards and a subsequent hierarchy of streets. Melbourne, Australia.

What does it mean *for the planet:*

Residents living in walkable urban communities use half as much energy per capita as their suburban counterparts.

Farr, Douglas, *Sustainable Urbanism*, 2008

I am likely to have a longer and more healthy life because walking is an enjoyable part of my everday routine.

for you:

If I walk an average of 2 km a day while growing up, I am 10% less likely to be obese.

Frank/Andresen/Schmid, *American Journal of Preventive Medicine, 2/2004*

Case Study

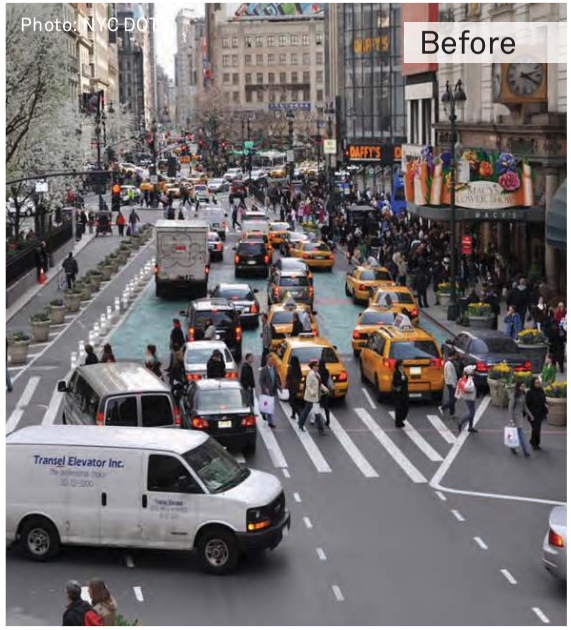
New York streets

From world famous to world class!
Pedestrianizing Broadway

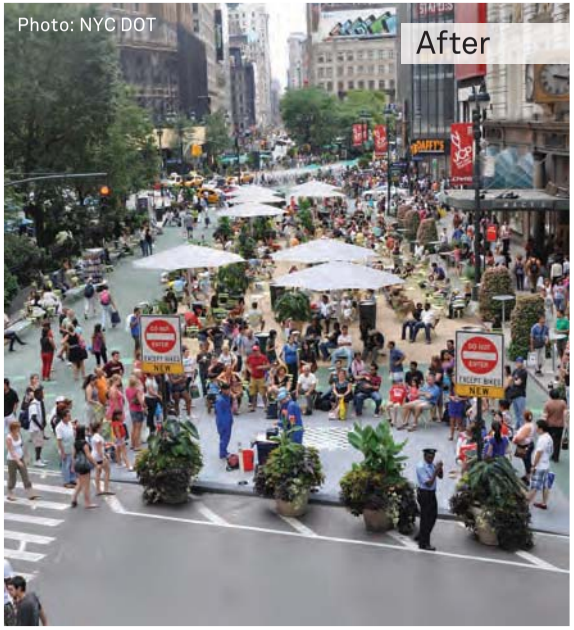
By 2008, the sidewalks in Times Square were so overcrowded that pedestrians were spilling into the streets. In May 2009, New York City implemented the Broadway Boulevard project, which included new pedestrian zones in Times Square, Herald and Greenly Squares, and at Madison Square Park. Despite reclaiming nearly 500,000 ft2 (45,000 m2) of public space from traffic, congestion actually decreased on most surrounding avenues. Traffic injuries fell by 63% and pedestrian injuries fell by 35%.

Today, Broadway is thriving like never before. People from all over the world converge on this famous site to enjoy its cafés, concerts, art exhibitions, yoga classes, spontaneous snowball fights, or just to people watch.

Part of a comprehensive strategy for the public realm of NYC.



Herald Square-from a space for cars. . .



. . .to a space for people!

A safer street.

A more spontaneous place.

A more lively street.

Case Study

Mexico City for Pedestrians

Mexico City has been pedestrianizing streets in the historic city center to create a walking network of more than six streets and 4 plazas, providing more than 4.1km of pedestrian streets around the Zocalo, the main public square in the heart of downtown.

In addition, Paseo de la Reforma keeps its reputation as one of the world's most beautiful avenues, connecting Chapultepec's Castle with the Zocalo where a 2 km dedicated cycle lane is being constructed. Part of this avenue has a shaded median lined with sculptures and, further down, art becomes furniture that people can lounge on and relax. Every Sunday this emblematic avenue is closed to cars in order to become a public space shared by more than 10,000 cyclists, pedestrians, skaters, children and families.

Outdoor cafés, street performances and other activities create a vibrant, people-oriented environment.

Crossings have been improved with wide crosswalks, bike boxes and narrower lanes for cars.

Pedestrianized streets break up the large scale street grid and offer a pleasant walking experience.

Urban furniture is organized to allow places to stop while ensuring clear access for pedestrians.

2 Cycle

Prioritize cycle networks

Bicycles allow the convenience of door-to-door travel while using less space and fewer resources. They are the healthier and more sustainable alternative to cars and taxis for short trips. Many people will choose cycling if streets are made safe and comfortable. Bike sharing makes cycling possible for people who don't have their own bikes with them. Making cycling possible has allowed some families to save up to a third of their income normally spent on vehicles or transit fares.

The more bicycles on the streets, the safer the streets become. Segregated bike lanes are needed on higher speed roads, while on local streets traffic calming and shared street designs are better, allowing traffic to mix at slow speeds. In hot countries in particular, shade is very important. A great bicycling environment is one where a child can cycle without danger. A great bicycling network is one where a cyclist can safely and quickly travel to any destination.

Design streets that emphasize cycle safety and convenience

Simple interventions, like adding a ramp to stairs for people using cycles, make crossing more convenient. Changzhou, China.

Create bike lanes separated from motorized traffic. Beijing, China.

Striping the bike lane through the intersection is a clear indicator that bike traffic is expected and drivers should watch out especially when turning. Barcelona, Spain.

Provide secure parking for public and private cycles

The bike sharing program, Vélib, captured the imagination of Parisians and visitors alike. Paris, France.

Hangzhou's 2,050 bike-share stations has made the system popular and convenient. Hangzhou, China.

Convenient bike parking can facilitate easy transfers between different modes. Amsterdam, The Netherlands.

The availability of safe and convenient parking is critical to encouraging cycling. Hamburg, Germany.

What does it mean *for the planet:*

Biking is the most efficient form of transportation yet invented. Using the same amount of energy you get 3 times as far as walking (and 60 times as far as driving a car).

Gehl, Cities for people, 2010

for you:

If I bike to work instead of taking the car for the next 20 years, I will save $100,000 more for my retirement, live 7 years longer, and cut 94 tons of CO_2.

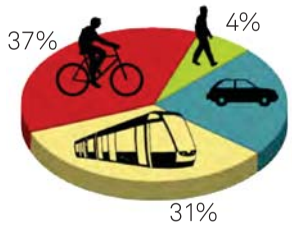
Case Study

City for Cyclists

Copenhagen, Denmark

37% of all residents in Copenhagen commute by bike to work or school every day. They travel a total of 1.2 million kilometres daily. It is also safer to cycle in Copenhagen than in most other cities. This is due both to good infrastructure—dedicated bike lanes (350 kilometres of cycle tracks and 40 kilometres of green cycle routes), and bicycle-friendly intersections, but also because so many cycle. Convenience is why a majority of cyclists chose to bike (61%), but some bike for health (16%), to save money (6%) or to protect the environment (1%).

For every 10% of the population that bicycles to work and school every day, the city reaps a healthcare saving of USD 10 million annually while avoiding 57,000 sick days and adding 61,000 extra years of life (Municipality, 2007).



Commuting modes in Copenhagen 2008

Because of a good bicycle network and a developed bike culture, Copenhageners continue bicycling even in winter.

Blue dedicated lanes at intersections increase awareness and safety.

Biking-an everyday activity for all age groups.

Case Study

World's largest bike share

Hangzhou, China

In Hangzhou, some 43% of trips are made by bicycle. In addition to hundreds of kilometers of dedicated bike lanes, and a partial bus rapid transit system, Hangzhou also implemented the first and largest bike sharing system in the world.

Since opening, use of the Hangzhou public bike system has increased from 0.93 daily rides to 3.27 daily rides per bicycle. Hangzhou's bike-sharing program launched in October 2008, and has a total of 50,000 bikes and 1,700 stations (most of which are unmanned). City-owned and operated, the system uses a smart card integrated with the city's bus, bus rapid transit (BRT), and parking systems.

The bike sharing program in Hangzhou has been a success, inspiring other cities to do the same.

Clearly marked bike lanes and special bike stoplights improve safety for bicyclists.

Tents, awnings and shelters protect cyclists from sun and rain at intersections.

Bollards connected by wire help slow cars down as they turn right. Cyclists get a left turn arrow and have their own left turn lane in the protected bikeway.

3 Connect

Create dense networks of streets and paths

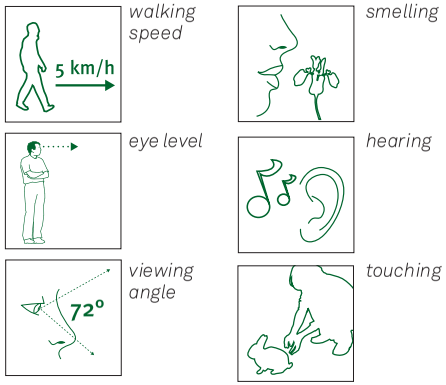
Cities that are pleasant to walk and bicycle through typically have large numbers of narrow short streets and many intersections per unit of area. This makes the traffic slow down while walking becomes more direct, varied, interesting and attractive.

The tighter the street grid, the less detour to a destination. Detours can affect the decision to undertake a trip and by what means. At walking speeds, detours matter much more than at car speeds.

Streets that are short and relatively narrow are well scaled to the perception of people on foot. They afford good opportunities to connect with the surroundings. Each corner offers glimpses of alternate routes or places where to stop, and new possibilities. Buildings, shops, trees and other streetscape elements are closer to the pedestrians and the cyclists as they travel.

Create dense public street and path networks that are highly permeable to pedestrians, bicycles and transit

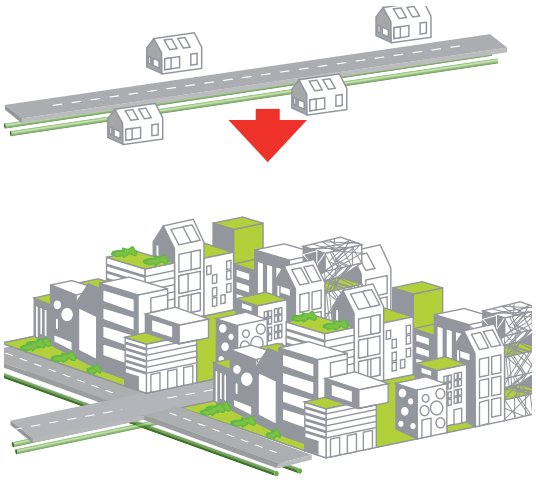
Lanes and small passages increase connectivity, and appeal to the senses. Guangzhou, China.



In an environment well scaled to the physical size of the human body, all senses can engage.

Fine grain area filled with restaurants and small shops. Istanbul, Turkey.

Create auto-free streets, alleys, and greenways to encourage non-motorized travel



In a high density city, the cost of infrastructure will be divided by more people.

Aerial view of Bo01 development. Malmö, Sweden

Almere's short and connected pedestrian priority streets are attractive and animated.

The Donghaochong Greenway cleaned up a heavily polluted urban canal and created new neighborhood parks in addition to the greenway. Guangzhou, China.

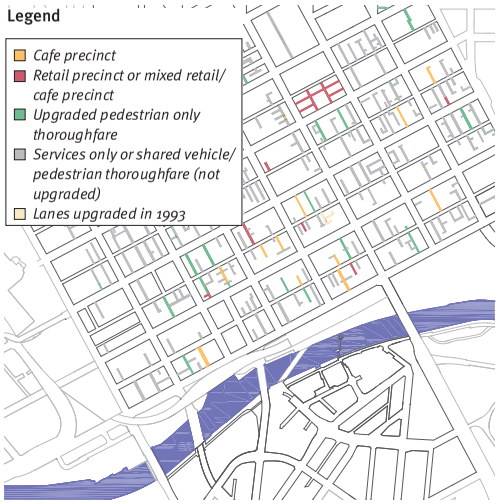
Narrow short streets filled with shops make walking more interesting and attractive. Lyon, France.

Case Study

Opening the laneways Melbourne, Australia

Accessile and active laneways in Melbourne's city centre have increased from 300m (1994) to 3,43 km (2004). Of these, 500 m are completely new lanes or arcades, while the rest are existing, previously unaccessible service laneways that have been opened up with active facades, various functions and art installations. The lanes offer an alternate route through the city centre with a more human scale atmosphere. The opening of the lanes along with other investments in the public realm have contributed to a remarkable increase in public life in the centre of Melbourne, documented in the public space-public life surveys in 1994 and 2004 respectively.

Previously unaccessible laneways. . . *. . .transformed into human scale, active routes through the city centre.*



Revitalisation of lanes.

Nightlife at Hardware Lane.

Lanes used for art installations.

Case Study

Bo01, Malmö, Sweden

The designers of Bo01, a recent community development in Malmö, Sweden, laid out the development on a short and irregular 60 meter by 60 meter grid of well differentiated streets that are highly accessible and user friendly to pedestrians and cyclists. They further enhanced the diversity and variation of the architecture and the public space by breaking down the 60 meter blocks into small plots all allocated to different developers. The blocks were designed to protect the streets and plazas from the strong prevailing winds and open them up to sunlight as much as possible, thereby creating microclimates able to sustain a vital public life even during cold weather. A range of green building systems, including rainwater collection and rigorous building insulation further elevated the environmental sustainability standards set for the development.

Bo01 is testament to the ability of urban planning to create developments that respond to local conditions. Urban developments can be perfectly scaled to the needs to pedestrians, and they can offer a diversity of spaces and architectural details as stimulating and intriguing as those more usually associated with pre-modern city designs.

The new area has become a meeting place for all inhabitants, a place where anything can happen.

Blocks were developed to open streets and plazas to sunlight.

Narrow, short, zig-zag streets and small squares create a varied streetscape suitable for walking.

4 Transit

Support high quality transit

Some trips are too long to make walking or cycling a viable option. As growing traffic from private cars and trucks slows down buses, cities need to intervene to improve their public transit systems. Mass transit can move millions of people quickly and comfortably using a fraction of the fuel and street space required by automobiles.

Because of their comparatively low costs and fast implementation time, bus rapid transit (BRT) systems are proving able to keep pace with rapid motorization and metropolitan growth while providing a service comparable to metros. Like a metro, BRT combines high quality stations, including level boarding and real time information systems, with exclusive bus lanes and clean and comfortable high capacity buses. Passengers pay before they board, reducing the time it takes for passengers to get on the bus.

The best transit systems are designed around the specific needs of their passengers, much as a good tailor builds a suit to fit a specific person. Investing in mass transit means investing in people.

Ensure frequent, fast and direct transit service

Weather protected stations with seating and real time information systems make the experience much more comfortable for the passenger. Ahmedabad, India.

Real time information displays ensure that passengers are updated. Guangzhou, China.

Establish a high capacity, high speed transit corridor with dedicated transit lines within walking distance

Passing lanes allow buses to bypass certain stations to provide express service, connecting popular destinations for a faster trip. Bogotá, Colombia.

Since opening in 2004, TransJakarta BRT system has expanded to 118 kilometers, or 73 miles. Jakarta, Indonesia.

Locate transit stations, homes, jobs and services within walking distance of each other

Cali's BRT was the first full-featured BRT to build on the inherent flexibility of buses by allowing buses to operate both on and off the busway. This provides a more direct trip and eliminates transfers. Cali, Colombia.

In Bogotá, the BRT has helped revitalize the city center by creating a transit mall where only buses, pedestrians and cyclists can go. Bogotá, Colombia.

Guangzhou's full-featured BRT system allows buses to travel quickly along the corridor and then to leave the corridor to drop passengers closer to their destination. Guangzhou, China.

Guayaquil's BRT station integrates well with the dense downtown. Guayaquil, Ecuador.

What does it mean

for the planet:

A bus can typically carry over 8 times as many people as a car and proportionately use a fraction of the amount of energy per passenger. This benefits both global climate and street environment in cities.

for you:

If you choose the bus in Jakarta instead of taking the car, you save 0.2 kg CO_2 per kilometer, or 2 tons per year going to and from work.

Case Study

Rea Vaya BRT

Johannesburg, South Africa

Rea Vaya, the first full BRT system on the African continent, opened in Johannesburg, South Africa in August 2009, giving new meaning to the city's motto: "A world class African city."

Rea Vaya replaced 575 rickety and polluting 15-seater minibus taxis with about 140 high capacity Euro IV modern Scania buses. Rea Vaya has 25 state-of-the-art BRT stations which offer pre-paid boarding and platforms level with the bus floor. Each iconic and spacious station is decorated by local artists with a local theme.

The system runs in exclusive busways for nearly the entire 25.5 kilometer length. It has trunk services, feeder services, and also innovative "complementary" services that operate both on normal streets and inside the busway. Many stations include passing lanes to allow express buses to pass local services, and have multiple stopping bays to allow several buses to load simultaneously.

The Rea Vaya bus operators will be new companies made up of former minibus taxi owners. Because the drivers are paid to operate on schedule rather than by how many passengers they pick up, and the companies are penalized for speeding or not maintaining their buses, Rea Vaya is ending the dangerous practice of minibuses jumping in front of each other to capture passengers.

By the 2010 World Cup in June, daily ridership reached 35,000. Rea Vaya, a world-class BRT system, is quickly becoming a model transit system for the African continent as well as for the world beyond.

The BRT system brings passengers directly into the city center.

Level boarding make buses accessible for all user groups.

Stations are well-maintained, lively and well-lit, making them safe and attractive.

Photo: Philip Mostert

Rea Vaya BRT station downtown
Johannesburg, South Africa

5 Mix

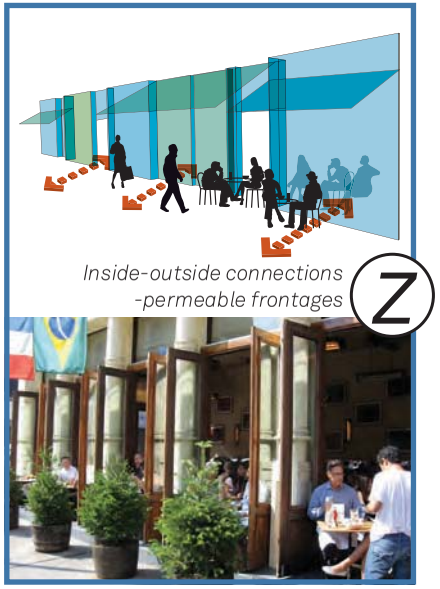
Plan for mixed use

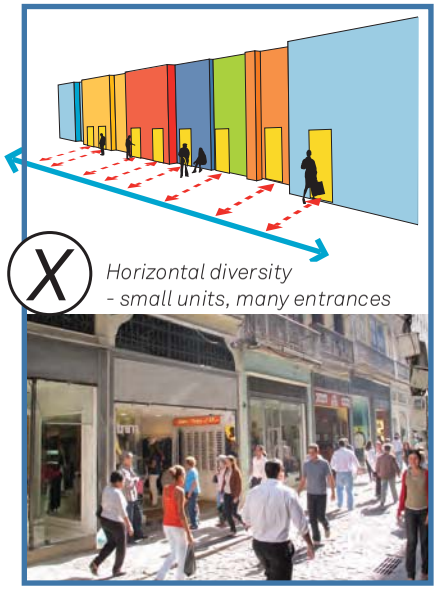
Integrating residential, work, retail and entertainment activities into one area makes for better cities and better places. When the destinations that people need to access everyday are mixed together, as opposed to concentrated in separate spaces, many trips become short and walkable. Time spent commuting or running errands can be reduced, as it becomes easier to combine trips. Socially diverse, mixed income neighborhoods also shorten trip distances, are safer and more interesting.

Streetscapes become more varied, rich and interesting. Overlapping activities animate the streets at all hours. Liveliness attracts life, people attract people, local business thrives and diversifies, and safety improves.

The liveliest cities are those who stack lower-floor retail with residential and office functions above. Combined with dynamic public spaces and plazas, mixing it up creates vibrancy in and above the streets.

Plan for an optimal balance of housing, commerce, incomes and services

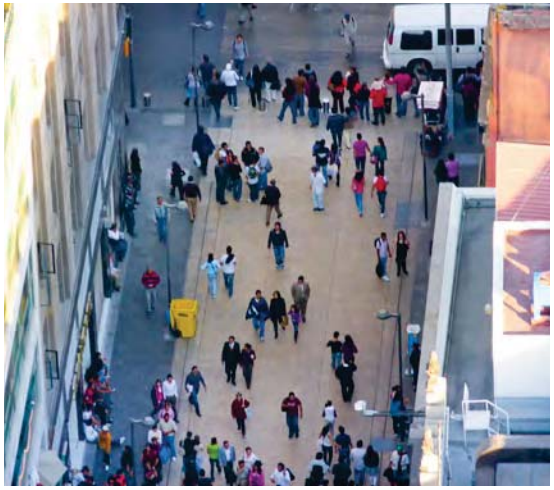




Provide a variety of accessible parks and open spaces

Pedestrian flows help retail businesses and services, which in turn activate the streetscape. Avoid blank walls and long building set-backs. Santiago, Chile.

Encourage a diversity of activities on sidewalks and public space. Beijing, China.



Auto free streets with lower-floor retail shops encourages people to shop and linger. Mexico City, Mexico.

Create a place where a diverse mix of people can meet or retreat. New York City, USA.

What does it mean *for the planet:*

Mixed use development can reduce average vehicular miles travelled per person per day by 30%

Farr Douglas, *Sustainable Urbanism*, 2008

for you:

The daily activity most injurious to happiness is commuting (by car). With a shorter commute, you'll be happier!

Stutzer/Frey, The Commuting Paradox, 2004

Case Study

London Southbank

Re-imagining the public realm-inside and outside

The regeneration of London's South Bank provides a model of mixing users and functions day and night. Dynamic and flexible spaces are open to the public and welcome a range of events, from local school plays to international fashion shows. Indoor and outdoor public spaces, free wi-fi networks, electronic outlets, and good places to sit encourage people to linger, mix, and mingle. Students and professionals with laptop computers flock to the South Bank which functions as informal office space.

The addition of two pedestrian bridges (Charing Cross and Millenium) acted as a catalyst for the revitalization of the Southbank. With improved accessibility, a vast mix of institutions and destinations have located along the waterfront, attracting diverse activities and events as well as people from all walks of life-locals and tourists alike.

Always a draw for special events and activities, the South Bank is in many ways Londoners urban living room.

The space has been reinvented to act as a public living room, mall and promenade, with invitations for residents and tourists.

Indoor public spaces at the National Theatre provide for meeting, eating as well as a collective work and study places.

Case Study

Guangzhou-Tianhe Nan

Vibrant mixed-use district emerges out of single-use housing complex

Tianhe Nan, in Guangzhou, China, is a housing complex composed of dozens of walk-up apartment buildings constructed in the early 1990s, up to 9 storey high. The community was initially fenced off, access-controlled, and single-use. Starting in the early 2000s, some ground floor owners began converting apartments into coffee shops and small retail stores. The area soon became a vibrant cluster of trendy independent designers. The streets were gradually opened to the public and closed to cars; their design and material improved. The transformation process rapidly spread to adjoining communities.

Streets have filled with people as shops have opened up.

The careful integration of trees and planting improve the comfort and quality of the street.

The former single-use, residential complex has turned into a vibrant neighbourhood.

Ground floors are being retrofitted to create opportunities for shops and businesses.

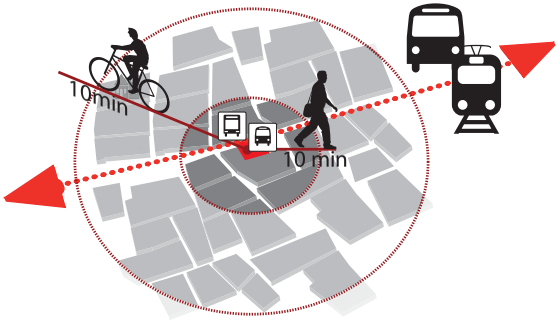
6 Densify

Match density and transit capacity

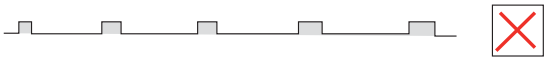
By 2030, cities are projected to absorb two billion more people. High density is crucial to low-carbon cities. Density needs to be related to the capacity of all modes of transportation. If roads are designed to be bike and pedestrian-friendly with transit-priority lanes on major arterials, new residents will concentrate in transit convenient locations.

This will maintain the viability of transit in the ling run, shorten trip distances, save travel time and preserve millions of square kilometers of arable land. These dense communities use resources more efficiently, reducing the carbon footprints of its residents.

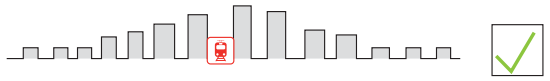
Match density to the capacity of a transit system



Densify around transport nodes according to pedestrian and cycling 10-minute catchment areas; 800 meters for pedestrians and 3 km for cyclists.



Existing low-density areas. . .



. . .should be densified horizontally along a wide area, becoming denser towards the transit nodes

Land use planning encouraged densification around the BRT transit corridor in Curitiba, Brazil.

Bus Rapid Transit. Curitiba, Brazil.

Maximize transit system capacity

Major job centers should be located where high-volume transit is available. Guangzhou, China.

Total land consumption as a result of dense urban living is 1/1000th that of suburban living.

Farr, Douglas, *Sustainable Urbanism*, 2008

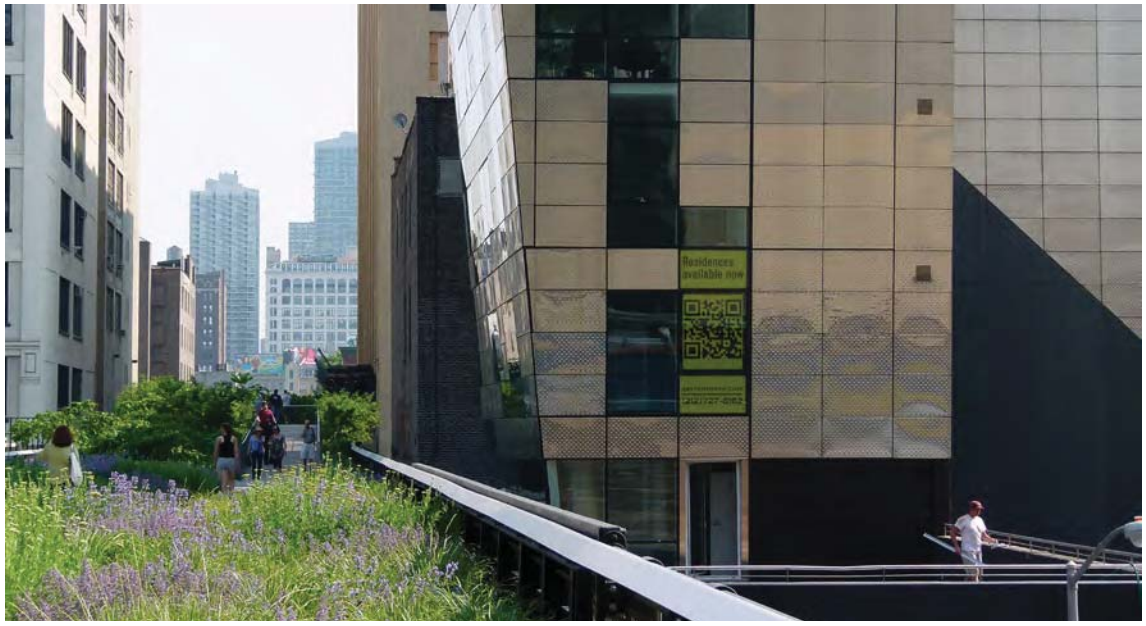
In Guangzhou, density is focused around the BRT corridor. The system's capacity matches commute-hour transit demand. Guangzhou, China.

Case Study

Re-zoning along the High Line, New York

The High Line, an elevated public pedestrian promenade, situated between Gansevoort St and West 30th Streets in the West Chelsea neighborhood of New York City, was formerly an elevated rail line used to transport goods to the factories and warehouses of the West Side. The project first captured public attention in 2003, when the Friends of the High Line held a competition soliciting proposals for the reuse of the abandoned railway. The competition attracted 720 entries from 36 counties, which were displayed in Grand Central Station. Phase I of the High Line opened in 2009, and a second section opened in 2011, expanding the promenade to a 1.5-mile length.

In anticipation of the development impacts of this new urban amenity, the City of New York adopted the West Chelsea Comprehensive Plan in 2005 to spur development in the surrounding area, while preserving the character of historic Gansevoort Meat Market, the West Chelsea art district and the newly planned Hudson Yards. Before, this new plan was adopted, the area was zoned for industrial uses only, and the maximum allowable floor-area to lot ratio (FAR) was 5. The adopted plan changes the zoning to allow for mixed commercial and residential developments and inceases the allowable FAR to a base of 6.5. Landowners of properties within a designated "High Line Transfer Corridor", beneath or immediately adjacent to the High Line are permitted to use a TDR (transfer of development rights) scheme to sell their developable floor area for land within in the Corridor, to designated "receiving sites" within the larger special district, allowing for FARs as high as 10 or 12 on these sites.



The new zoning district encouraged densification, allowing for mixed-use developments.

Developers willing to include low/moderate-income housing or public access to the High Line in their projects receive additional FAR bonuses.

To date, the new zoning district has catalyzed over 17 residential and commercial developments, including more than 1,000 residential units, protected many historic sites such as Chelsea Market and the Chelsea arts district, and repurposed nine off-street parking lots.

This careful densification and mix of uses, human-scale street grid, excellent transit accessibility and protected bike lanes on 8th and 9th Avenues, and proximity to mid-town Manhattan has made the former industrial area a vital, highly desirable mixed-use urban neighborhood.

Maximum FAR on some lots more than doubled.

A concrete pathway spans the length of the High Line, providing an interesting walking experience, as well as new views of the city.

7 Compact

Create compact regions with short commutes

Community location has a long-term impact on sustainability. New developments placed far from existing cities are inconvenient and rarely thrive. City planners can avoid this by locating compact new sub-centers within or adjacent to existing cities. Most cities have underutilized land no longer needed for its original purpose. Old docklands, rail yards, surface parking, industrial zones or decommissioned military bases can often be re-used and become vital new urban centers.

Cities need to create incentives to develop this land first, before driving development to distant greenfields. In addition to protecting arable land, this strategy significantly decreases the cost of providing transit, utilities, and other services to these new locations, while reducing most residents' daily commute.

Reduce sprawl by focusing development in areas adjacent to and within existing developments

Old factories turned into exhibition halls. Factory 798, Beijing, China.

Reused structures preserve elements of neighborhood history and identity. Vertical extensions accommodate additional people and activities. New York City, USA.

New infill development. Budapest, Hungary.

Co-locate jobs and housing within short commuting distances

Industrial area metamorphosed into a hub of life, work and leisure. New York City, USA.

In Malmö, more than 35% of residents travel less than 5km to get to work. Malmö, Sweden.

In Frieburg, no home is more than 400 m from a transit stop and all trams offer step-free access. Freiburg, Germany.

Selective redevelopment on existing footprints allows densification while preserving the grain of the walkable district. New York City, USA.

What does it mean

for the planet:

By encouraging infill development, the economic savings to society would equate to over $300 million per 1000 housing units or $110,000,000,000 over the next 50 years for a city with 4-5 million inhabitants.

Adams Rob, Transforming Australia, 2009

for you:

A compact neighborhood for me is a place where my friends and kids can easily live nearby, I can walk to where I need to get to, and everything I need is close at hand.

Case Study

Massena, Paris

From obsolete industrial district to people and transit-oriented, dense and mixed used neighborhood.

Integrating residential, work, retail and entertainment activities into one area makes for better cities and better places. When the destinations that people need to access everyday are mixed together, as opposed to concentrated in separate spaces, many trips become short and walkable. Time spent commuting or running errands can be reduced, as it becomes easier to combine trips. Socially diverse, mixed income neighborhoods also shorten trip distances, are safer and more interesting.
Streetscapes become more varied, rich and interesting. Overlapping activities animate the streets at all hours. Liveliness attracts life, people attract people, local business thrives and diversifies, and safety improves.

The liveliest cities are those who stack lower-floor retail with residential and office functions above. Combined with dynamic public spaces and plazas, mixing it up creates vibrancy in and above the streets.

Small plots and many designers create varied architecture.

Aerial view of the Massena district before development

. . .and during construction.

Narrow streets and active ground floors.


TIE
CHANTIER

8 Shift

Increase mobility by regulating parking and road use

In the last century many cities were retrofitted and designed to accommodate automobile travel. Car travel will remain a preferred choice for some people on certain trips in 2030, especially where cost-effective public transit options are not available. These cars should be as clean, fuel efficient, quiet and safe as possible for both passengers and surrounding people.

Widening or adding roads in built up urban areas tends to damage local communities. More cars lead to greater congestion, pollution, fuel consumption, and greenhouse gas emissions. Cars consume too much road space to be viable for more than a fraction of total travel. If car travel keeps pace with population growth, gains from fuel efficiency and cleaner technologies will be countered by slow speeds—as drivers get stuck in traffic congestion. Car trips can be kept at levels that available roads can handle through parking policies, vehicle restrictions, user charges, and traffic cells that allow more direct access for transit vehicles and bicycles. These strategies can also be tailored to specifically encourage the use of cleaner and quieter vehicles. Better management of travel demand is critical for any city made for people, not cars.

Limit parking to discourage driving during peak traffic periods

Creating protected pedestrian space gives walking and other travel modes legitimacy alongside vehicle access. Bogotá, Colombia.

Traffic cells allow passenger vehicles and lorries to access a street only if it is their destination, giving pedestrians and cyclists priority.

Off-street parking regulations force developers to build more parking than needed, increases housing prices and blight the urban environment. Detroit, USA.

A woonerf with perpendicular parking arranged to calm the street, giving priority to pedestrians and bicyclist. Amsterdam, The Netherlands.

Adjust car use fees by time of day and destination

Drivers have been paying to enter the city's central business district since 1977. A device linked directly to a car owner's bank account is used to deduct a fee at entry checkpoints. Tolls adjusted by the time of day keep traffic free-flowing at least 85% of the time on streets and highways. Singapore.

2-to-1 public opposition to congestion charges turned to 2-to-1 support after voters saw how a 20% drop in traffic led to a 30-50% reduction in traffic delays. Stockholm, Sweden.

Real-time information display boards let drivers know where parking spaces are available nearby, lowering the distance cars travel cruising for parking. Chengdu, China.

On-street parking fees are used to optimize turnover at the curb and fund Bicing, the city's bike sharing scheme with stations in former car parking spaces on certain streets. Barcelona, Spain.

What does it mean *for the planet:*

A 5-kilometer per hour drop in speed results in 15 percent fewer collisions, 10 percent fewer pedestrian fatalities, and 20 percent less severe pedestrian injuries.

for you:

With car sharing, I always have access to a car–in fact, many types of cars.

Case Study
Zurich

Zurich's traffic problems began in the 1960s and 1970s when the city mobility plan sought to accommodate more cars on the road. As road capacity, air quality issues, and noise pollution got worse, Zurich amended their plan to a more restrictive parking policy, raising prices for parking in the residential areas to match the city center, amending on street parking regulations, enacting a parking supply cap and linking the off-street parking regulations to traffic management and air quality goals.

The parking supply cap and off-street parking regulations were established in 1996. According to Zurich local laws, if a space is created off-street in a capped area, like inside the city center, no new parking can be built unless the City agrees to remove an equal number of on-street parking spaces. Access to public transit prompts a reduction in the parking requirement with developments close to a bus or tram stop. The policy has allowed for on-street improvements to be made and the creation of new public plazas.

Zurich developed two types of regulated on-street parking zones: blue and white. Blue zones allow free parking up to 90 minutes using a pre-paid parking permit, but does not guarantee that permit holders will find parking. White zones require paying for visitor parking, which increases every 30 minutes. The P&D scheme in Zurich is hyper-localized with prices and privileges varying by time of day and location across the entire city block-by-block, rather than in geographic clusters. The parking surplus from the fees goes directly to the city treasury.

Former curbside parking was converted to bicycle parking.

Parking Spaces oriented in a way that promotes traffic calming on a residential street.

European blue disc affixed to the windshield of a car.

Two hour limited paid parking in a residential neighborhood.

Street cleared of parking to conform to parking supply cap.

Summary

1. Walk	**Develop neighborhoods that promote walking**	*Shorten street crossings*
2. Cycle	**Prioritize cycle networks**	*Design streets that emphasize cycle safety and convenience*
3. Connect	**Create dense networks of streets and paths**	*Create dense public street and path networks that are highly permeable to pedestrians, bicycles and transit*
4. Transport	**Support high quality public transport**	*Ensure frequent, fast and direct transit service*
5. Mix	**Plan for mixed use**	*Plan for an optimal balance of housing, commerce, incomes and services*
6. Densify	**Match density and transit capacity**	*Match density to the capacity of a transit system*
7. Compact	**Create compact regions with short commutes**	*Reduce sprawl by focusing development in areas adjacent to and within existing developments*
8. Shift	**Increase mobility by regulating parking and road use**	*Limit parking to discourage driving during peak traffic periods*

Emphasize pedestrian safety and convenience	*Encourage ground-level activity and create places to relax*
Provide secure parking for public and private cycles	
Create auto-free streets, alleys, and greenways to encourage non-motorized travel	
Establish at least one high capacity, high speed transit corridor with dedicated transit lines within walking distance for 80 per cent of the population	*Locate transit stations, homes, jobs and services within walking distance of each other*
Provide a variety of accessible parks and open space	
Maximize transit systems capacity to planned capacity	
Co-locate jobs and housing within short commuting distances	
Adjust car use fees by time of day and destination	





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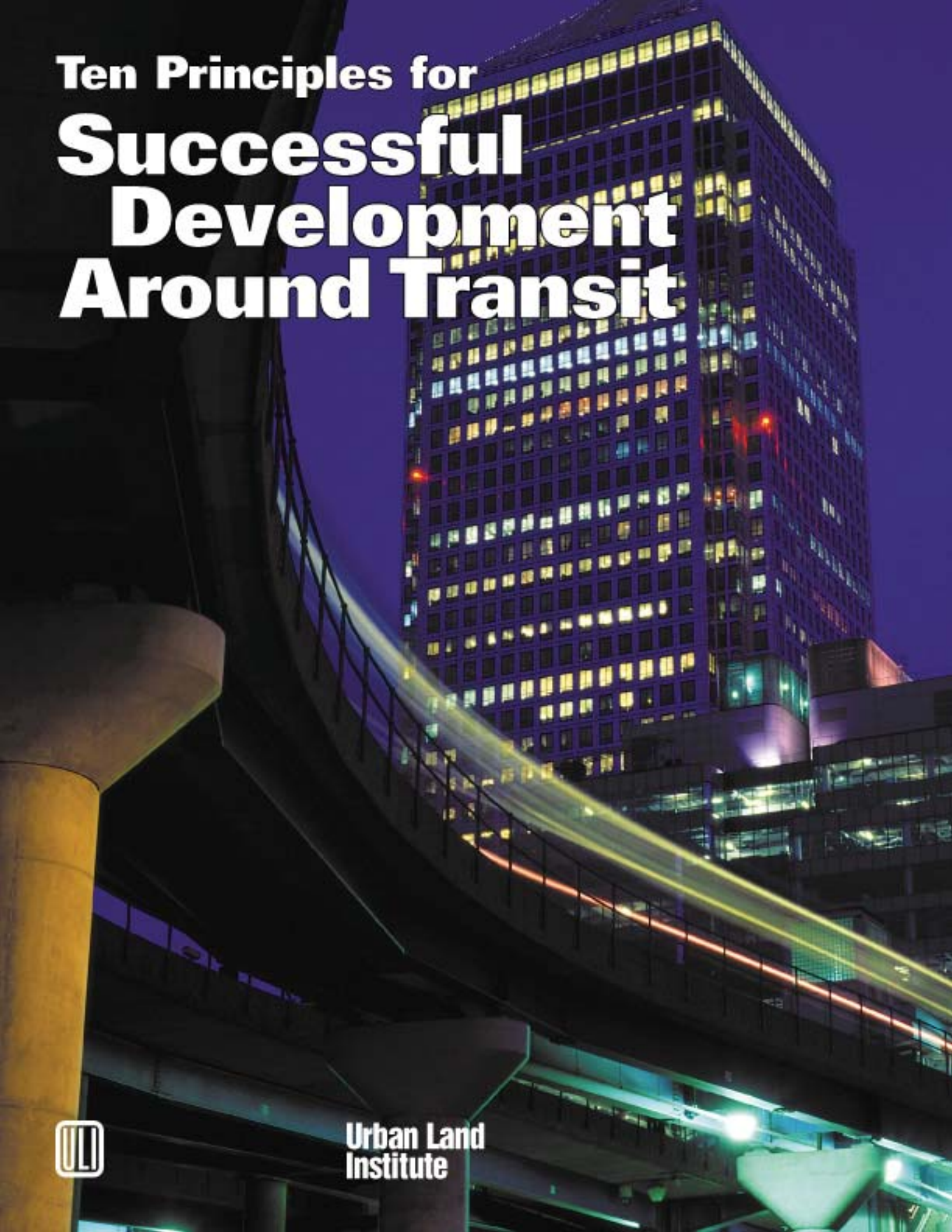
Ten Principles for Successful Development Around Transit



Urban Land Institute

Ten Principles for Successful Development Around Transit

Robert Dunphy

Deborah Myerson

Michael Pawlukiewicz

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Richard M. Rosan
President

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ULI PROJECT STAFF

Rachelle L. Levitt
Senior Vice President, Policy and Practice
Publisher

Marta Goldsmith
Vice President, Land Use Policy

Robert Dunphy
Senior Resident Fellow for Transportation
Project Director

Michael Pawlukiewicz
Director, Environment and Policy Education

Deborah Myerson
Senior Associate, Land Use Policy

Nancy H. Stewart
Director, Book Program
Managing Editor

Sandy Chizinsky
Manuscript Editor

Betsy VanBuskirk
Art Director
Book/Cover Design, Layout

Diann Stanley-Austin
Director, Publishing Operations

Cover photograph: Andrew Ward/Life File/ Getty Images

Participants

CHAIR

Marilyn J. Taylor
Chairman/Partner
Skidmore, Owings & Merrill LLP
New York, New York

DEVELOPERS

Richard J. Dishnica
President
The Dishnica Company LLC
Point Richmond, California

Kenneth H. Hughes
President
UC Urban
Dallas, Texas

Maureen McAvey
Senior Resident Fellow
ULI–the Urban Land Institute
Washington, D.C.

PLANNERS/DESIGNERS/ARCHITECTS

John Gosling
Director, Residential Sector
RTKL Associates, Inc.
Washington, D.C.

Oscar L. Harris Jr.
Chairman
Turner Associates/Architects and Planners, Inc.
Atlanta, Georgia

Steven R. Kellenberg
Principal
EDAW Incorporated
Irvine, California

MARKET ANALYSTS

Sandra Kulli
President
Kulli Marketing
Malibu, California

John R. Shumway
Principal
The Concord Group
Newport Beach, California

Belinda M. Sward
Managing Director
Robert Charles Lesser & Co., LLC
Atlanta, Georgia

TRANSPORTATION SPECIALISTS

Anne P. Canby
Cambridge Systematics
Chevy Chase, Maryland

Robert Cervero
University of California at Berkeley
Department of City and Regional Planning
Berkeley, California

Robert Dunphy
Senior Resident Fellow for Transportation
ULI–the Urban Land Institute
Washington, D.C.

Chris Luz
Vice President, Parking Services
HNTB Corporation
East Lansing, Michigan

PUBLIC SECTOR REPRESENTATIVES

Michael Dobbins
Commissioner of Planning and Development
City of Atlanta
Atlanta, Georgia

Marilee A. Utter
Transit-Oriented Development Specialist
Regional Transportation District
Denver, Colorado

Jack Wierzenski
Assistant Vice President
Economic Development and Planning
Dallas Area Rapid Transit
Dallas, Texas

Introduction

In the early years of the 20th century, transit dominated travel in cities—and, by necessity, development was clustered near transit. In fact, transit and land use were so closely connected that private transit operators often developed real estate and used the profits to subsidize transit operations. By the close of the 20th century, however, the automobile had become the dominant means of travel in urban centers, cities with extensive transit networks were in decline, and proximity to transit was most often an afterthought in development. Once the norm in urban settings, development around transit became the exception. And, as accessibility for automobiles became the focus of development, with no regard for the location of transit, the basic principles for developing around transit fell into disuse, and were eventually lost.

Recently, however, new trends have emerged that favor cities, transit, and development around transit. A number of major cities with extensive transit networks—including Atlanta, Boston, Chicago, and Seattle—are enjoying increases in overall population and even greater gains in downtown areas, where transit is most accessible. It is even possible in some cities to get by without a car on most days.

Chicago, one of the nation's leading transit cities, has seen a reversal of its long-term population decline: between 1990 and 2000, the city experienced a

Computer simulation of bus rapid transit, Lane Transit District, Oregon.

LANE TRANSIT DISTRICT AND NEWLANDS & COMPANY, INC.

4 percent overall gain in population, and the downtown population jumped by 51 percent. Other older cities with rich transit traditions, such as Baltimore, Cleveland, and Philadelphia, gained population downtown, the center of their transit systems, while continuing to lose population overall. Older and newer suburbs—Palatine, outside Chicago; Richardson, outside Dallas; and Englewood, outside Denver—have refocused their attention on developing, or redeveloping, around new or mature transit stations.

Rowes Wharf, in Boston, Massachusetts. A city rich in transportation options, Boston has used transit to preserve and enhance its vitality and its character as an extraordinary place.

What does it take to make such developments work? The principles presented here can serve as reminders for communities, designers, and developers who may have forgotten them. For those in newer, automobile-oriented communities, who have experienced nothing else, these principles can serve as a checklist for the development of pedestrian-scale communities that will be suitable for public

Bay Area Rapid Transit (BART).

transportation, either now or in the future. The principles will also be useful for transit agencies and others engaged in new transit projects, to ensure that nearby development will generate sufficient numbers of riders to support transit, and that transit will indeed enhance the community.

DEVELOPMENT POTENTIAL AND TRANSIT MODES

Transit options can take a variety of forms—local buses, light rail, heavy rail, commuter rail, people movers, and bus rapid transit. Some cities have many different modes, providing high levels of mobility for users. San Francisco, for example, is among seven American cities that have maintained their original streetcars; in addition, San Francisco offers the beloved cable cars, an extensive bus system, the Bay Area Rapid Transit (BART) heavy-rail system, old and new light-rail lines, two commuter-rail lines (Caltrain and Altamont Commuter Express), and ferries. Such rich transit capacity can support extensive nearby development, particularly at the points in San Francisco and Oakland where many of these transit modes converge.

In most regions, however, especially the fast-growing communities in the South and West, the transit system is limited to buses and possibly light rail, and development opportunities must be scaled to the transit capacity and the local market. The sections that follow summarize the types of development suitable for each of the primary transit modes (the site may be served by secondary modes as well). The first rule, however, is that the local real estate market determines what kind of development would be appropriate near transit: the type of transit mode generally responds to development density.

HEAVY RAIL

Heavy rail, also known as rapid rail, subway, or metro, consists of high-capacity, higher-speed trains operating on separate rights-of-way or in tunnels. Heavy-rail stations are generally spaced farther apart than light-rail stops, especially on the outer segments of lines. North America's early heavy-rail systems are in Boston, Chicago, New York, Philadelphia, and Toronto. Newer systems have been built since the 1960s in Atlanta, Los Angeles, Miami, Montreal, the San Francisco Bay area, and Washington, D.C.—all of which are mature, higher-density regions, with development potential for high-density office and mixed-use projects in their downtowns, and for relatively high-density residential and commercial development in their suburbs. No new heavy-rail systems are planned in the United States or Canada, although expansions of existing systems have been built or are planned. While the high capacity of heavy rail supports high-density development, it is no guarantee that a given site will necessarily be attractive for development; there may be other factors that impede real estate development, such as lack of market potential, environmental constraints, inadequate infrastructure, or neighborhood opposition.

LIGHT RAIL

Light-rail vehicles, previously known as streetcars or trolleys ("trams" in Europe), are faster than buses but slower than heavy rail, and may travel either on existing streets or on separate rights-of-way. Development adjacent to light rail is generally less dense than development adjacent to heavy rail.

Seven North American cities have maintained their original light-rail systems: Boston, Philadelphia, San Francisco, Toronto (all of which also are heavy-rail cities), Cleveland, Newark, and Pittsburgh. All these cities are older, higher-density communities, typically with low growth to no growth. A number of cities have created new light-rail systems, including Dallas, San Diego, San Jose, St. Louis, and Portland, Oregon. Several other cities have projects in the proposal stage—in fact, almost every large city that does not already have light rail is considering it.

Many terms are used to refer to development around transit, the most popular of which are *transit-oriented development (TOD)*, *transit-focused development*, and *transit village*. Regardless of what development around transit is called, however, the desired outcome is the same: successful development, growing transit rider-

BUSES

The bus is the workhorse of public transit, making up in flexibility what it lacks in excitement. Buses are the mode used for two-thirds of the transit trips in the United States. Frequent stops make local service slow but ubiquitous, offering riders short walks to and from bus stops. Bus routes rarely figure in discussions of transit-oriented development. In fact, transit agencies often find businesses resistant to bus stops because of stereotypes about bus riders ("Rail riders linger; bus riders loiter").

Although bus routes, even busy ones, probably hold little appeal to most developers, given the fact that buses are the dominant transit mode in the United States and carry a significant share of travelers in some markets, opportunities for higher-density development around bus routes abound. Seattle, for example, while planning a light-rail project, is currently served by an extensive bus network, and ranks number seven among metropolitan regions in the percentage of workers who commute by transit. The city and inner suburbs have been developed at relatively high densities, all supported by bus transit. Such opportunities may not exist in smaller communities—especially today, when there is so much dependence on the auto—but should be sought out where possible. Undeveloped land near high-service bus corridors should be appropriately planned to facilitate higher-density development—a bonus that can be hard for a developer or landowner to pass up.

COMMUTER RAIL

Commuter-rail lines provide high-speed service to downtowns in many metropolitan areas, but typically only for inbound and outbound commuters and at less frequent service intervals than heavy rail, which operates in both directions during both peak and off-peak hours. The Long Island Railroad and Chicago's Metra are examples of traditional commuter-rail operations. A number of communities, such as Dallas, Seattle, and San Diego, have recently established commuter-rail service. Often, commuter-rail stations are simple platforms surrounded by parking, which limits development potential. However, communities near Chicago, in New Jersey, and elsewhere are rediscovering the potential of their train stations as town centers, and commuter-rail services in newer communities are considering development options concurrently with service planning.

EXPRESS BUSES AND BUS RAPID TRANSIT

Express bus service operates with few stops, and often on freeways, thus offering faster trips than local buses. Houston's extensive express-bus system, for example, picks up passengers at park-and-ride lots near freeway exits and takes them, via the freeway, to downtown, sometimes on express lanes. Riders have only a short drive to the pickup point and the convenience of nonstop freeway service to downtown. Because they are often surrounded by parking, express-bus operations have the same development limitations as commuter rail.

Bus rapid transit (BRT), an emerging transit option, is a bus service that has many of the features of a rail system and achieves average speeds that are two to three times that of light rail. With attractively designed buses and transit terminals, BRT can offer the look and feel of light-rail service at a substantially lower cost. Recent bus rapid transit projects in the United States cost an average of $13 million per mile ($8 million per kilometer) for exclusive busways, compared with $35 million per mile ($22 million per kilometer) for light rail. BRT has been popularized in Curitiba, Brazil, where it was a central strategy for expanding transit services to successfully compete with automobiles. Ottawa, Canada, is one of the few cities with extensive experience creating development around express-bus services, but new projects are being developed in a number of other cities, including Las Vegas and Phoenix. The permanence of an express-bus terminal gives developers a more substantial presence, which can support adjacent development.

Chicago, Illinois.

ship, and livable communities. For suburban and city developers alike, development around transit requires the same careful attention as any other project, with some minor adaptations. If real estate development is to support transit, the single most important requirement is that it be *near* transit. Once that requirement has been met, the principles outlined here will help support transit and strengthen both the project and the surrounding community.

Suburban gridlock is pushing many growing communities to explore alternatives to the automobile. The availability of options such as commuter rail, light rail, heavy rail, buses, and bus rapid transit will allow people to choose between wrestling with traffic and taking transit. Attractive development around transit can add to the positive aspects of the transit experience.

Development around transit promotes compact development, multiple rather than single uses, a pedestrian orientation, and attention to civic uses. Successful development around transit also demands a new form of community building that not only supports and encourages transit use but also transforms the surrounding area into a place that is so special and irresistible that people will invest there, live there, and visit again and again.

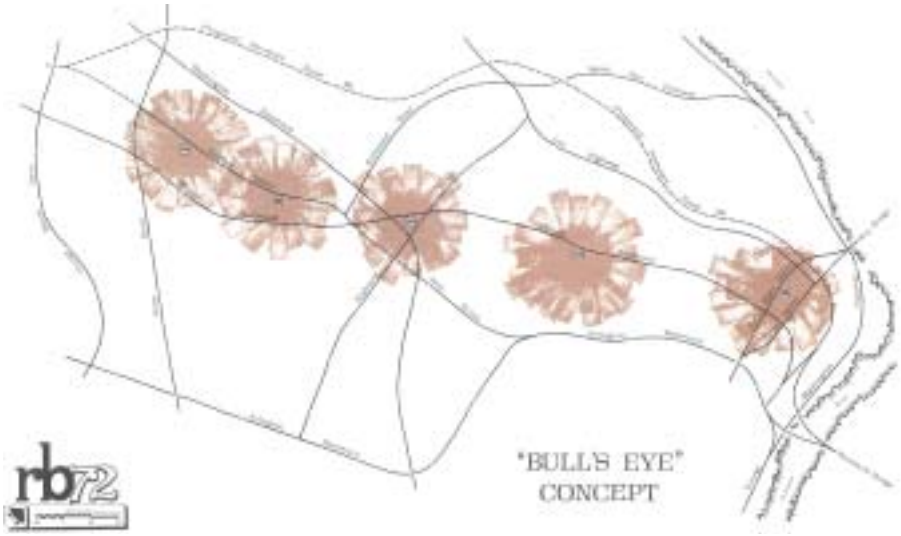
Ten Principles

1. Make It Better with a Vision
2. Apply the Power of Partnerships
3. Think Development When Thinking about Transit
4. Get the Parking Right
5. Build a Place, Not a Project
6. Make Retail Development Market Driven, Not Transit Driven
7. Mix Uses, but Not Necessarily in the Same Place
8. Make Buses a Great Idea
9. Encourage Every Price Point to Live around Transit
10. Engage Corporate Attention

1 Make It Better with a Vision

Transit is a tool to help achieve a community vision—a way of helping to create the kind of place in which residents want to live, work, play, and raise their children. Ideally, the desired development pattern for a region should be agreed on before transit and road plans are developed. In practice, however, development plans based on a clearly articulated vision for the community are the exception, which means that private land markets and public policy are left to battle out their differences. A transit station in an attractive location for businesses and housing may encourage developers to implement their own individual visions on a parcel-by-parcel basis. But the creation of a broader vision can help ensure that all developers pursue compatible strategies that reinforce the transit vision—and that those strategies will be supported, rather than opposed, by the surrounding community.

Shaping a vision means imagining a development future that recognizes both the



This "bull's eye" concept map from the 1970s, which shows the potential influence of development around each Metro station along the Ballston Corridor, in Arlington County, Virginia, was used to establish the vision for the corridor.

The vision was realized in these high-density development nodes along the Ballston Corridor. Outside the nodes, extensive traditional neighborhoods consisting of single-family houses have been preserved.

community's potential and the operative economic, political, and environmental constraints. Thus, the organization leading the visioning effort should understand the community's strengths and limitations. It should foster a vision that challenges, but does not exceed, the community's capabilities, and should ensure that the implementation schedule is realistic.

To succeed, a vision should be

- Oriented toward the future but based in reality;
- Stakeholder centered;
- Collaborative and educational;
- Focused on implementation; and
- Flexible.

VISION GENERATES DEVELOPMENT AROUND TRANSIT IN ARLINGTON COUNTY, VIRGINIA

Arlington County, Virginia, illustrates how a long-term vision can provide a vital foundation for planning development around transit. In 1960, when the Metrorail mass-transit system was in its initial planning stages, the 26-square-mile (67-square-kilometer) urban county across the Potomac River from Washington, D.C., had an emerging market for government office space, a strong single-family residential market, and a large number of garden apartments; it was also experiencing decline in its retail corridors.

Because the right-of-way for I-66 had already been acquired, transit planners originally proposed aligning the Metrorail tracks with the interstate, which would provide a cost-effective way of getting the Metro system through Arlington. But the county, envisioning the rail development as an opportunity to revitalize the county's commercial core, lobbied instead for a subway route that would run underneath Wilson Boulevard, a failing commercial corridor. The vision was established and sustained by what became known as "the Arlington Way," a consensus-driven decision-making process in which the county board relied on numerous citizen committees for advice.

To implement this vision, Arlington County embarked on an ambitious planning effort, lasting more than 25 years, that was designed to encourage growth and generate transit ridership. Through a series of community-oriented planning efforts, the county identified several major policy goals, including

- **A tax base consisting of a 50/50 mix of residential and commercial development;**
- **Mixed-use development that would include a significant number of residential units;**
- **Preservation of existing single-family and garden apartments; and**
- **An emphasis on redevelopment within one quarter-mile (0.4 kilometers) of Metro station entrances.**

The subway was an expensive proposition, but the county believed that it was worth the extra cost. Whereas a passenger train in the interstate right-of-way would have created an inconvenience for Arlington residents while offering little or no nearby development potential, the more expensive underground line fit the county's goal: to stimulate the kind of development that would generate social, economic, and quality-of-life benefits for residents.

Today, the Orange Line that runs through Arlington is recognized as one of the best U.S. success stories of development around transit. The Rosslyn, Courthouse, Clarendon, Virginia Square, and Ballston Metrorail stations are all hubs of activity, with pedestrian-oriented, high-density residential, commercial, and office development nearby. In 1970, for example, the corridor had 5.6 million square feet (520,800 square meters) of office space and 7,000 residential units. By 2002, the total had reached 21 million square feet (1,953,000 square meters) of office space and almost 25,000 residential units. Development in the two Metrorail corridors in Arlington County (the Orange Line and the Blue Line) uses 6 percent of the land in the county but produces almost one-half of the county's tax revenue. With a strong vision, smart planning, and the political will to sustain the vision over time, Arlington has leveraged Metrorail to nourish strong office, retail, and residential growth and to determine the direction of development.

Community visioning exercise in the Bay Area.

All those who have a stake in the future, as well as those who have the wherewithal to shape it, must be identified and brought into the process. The list of stakeholders typically includes citizens, landowners, developers, local businesses, the transit agency, local elected officials, and local government departments (such as planning, transportation, and public works). Interactions between stakeholders may yield disagreement and contention, but these are the very qualities that render the process collaborative and ensure that critical stakeholders will support the results. Tools such as visual preference surveys, charrettes, and focus groups can help stakeholders from disparate groups learn that they have more in common than they realize.

Grounding the vision in reality will help ensure that it is not so grand or impractical that it cannot possibly succeed. Financial considerations should be addressed early, ideally with the participation of the development community, to ensure that everyone understands the true cost of building the anticipated types of development and the marketability of the product. It is essential to test the financial feasibility of the development proposals that grow out of the visioning process and to coordinate that analysis with the financial analysis of the transit plan. The levels of development assumed in the transit forecasts, which are needed to make the transit project feasible, should be checked against the vision to see if they are realistic; if not, it may be necessary to revise the transit project. All the stakeholders must understand the actions that will be needed in order to realize the vision, including supportive planning and zoning actions and public and private investments. Being ready for implementation means having in place a land use plan and zoning ordinance that support the vision; it also means identifying the necessary financing tools.

Once the vision has been developed it should be publicized. The lead planning agency should identify advocates, preferably civic or business leaders, who can speak persuasively on behalf of the effort and use their influence to advance the project.

As implementation moves forward, phasing may become an important consideration: the vision may have to be adjusted to reflect changes in market dynamics, land ownership, community goals, economic prospects, or consumer preferences; at the same time, it is important to protect the vision against short-term opportunities that undermine the longer view. Shortsightedness may take the form of inappropriate rezoning, or allowing a use that will block the final achievement of the vision. With good planning, consistent policy implementation, and adherence to the vision, development around transit will eventually reach the critical mass that leads to success.

Arlington County, Virginia (see feature box on page 3), is a community that has supported, for four decades, a vision of concentrated development near transit.

2 Apply the Power of Partnerships

DIGITAL VISION/GETTY IMAGES

Creating a development project around a planned or existing transit line is one of the best ways to increase ridership. And development, unlike the expansion of transit routes or the addition of more vehicles, comes at little cost to the transit agency. In addition to encouraging and supporting private development, transit agencies, local governments, or both may take a more active role, through partnerships with the development community. To be effective, however, these partnerships must be carefully crafted to benefit each of the partners—just as partnerships in the private sector would.

A successful partnership relies on the strengths of each partner. The public sector has the power to resolve land-assembly problems, ensure that the site is development-ready, ease the entitlement process, and contribute land, infrastructure costs, or both. Private developers bring the real estate savvy, the contacts with end users, and the understanding of financial resources. Smoothing the entitlement process keeps the developer confident, on track, and on schedule—and helps make it possible for the private sector to assume the risks and to produce an outcome that reflects both the community vision and the market reality.

Public/private and public/public partnerships provide opportunities to set mutual expectations and to share risks, costs, and rewards; they also provide a framework for conflict resolution. To help ensure a successful outcome, partners work together, obtaining financial leverage through tools such as tax increment financing, state and federal financing, and foundation grants.

Because the developer's return on investment is the first indication of success in developing or redeveloping communities around transit, it is critical for the partnership to focus on meeting investment goals. Other indicators of success are the profitability of the businesses that locate in the development, increases in transit ridership, increases in tax revenues, and the satisfaction of the community and other stakeholders.

Some commercial developments near transit have enjoyed rent premiums over nearby properties. In a study of Santa Clara County property values in 1998 and 1999, Robert Cervero, of the University of California at Berkeley, found that multifamily residential projects within one quarter-mile (0.4 kilometers) of light-rail stops commanded a premium of around $9 per square foot ($96 per square meter), meaning that prices were 45 percent higher than those for comparable properties farther from the transit stops. For commercial properties during this period (when the technology industry was booming), being within walking distance of a light-rail station yielded an additional $4 per square foot ($43 per

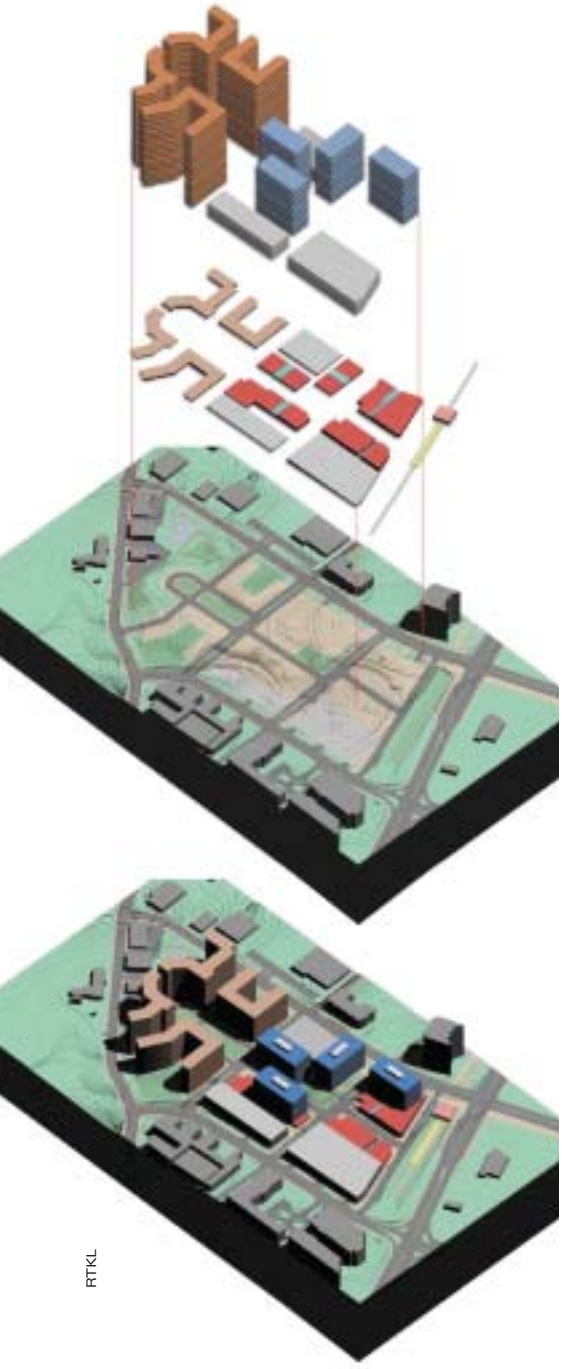
APPLYING THE POWER OF PARTNERSHIP: EL CERRITO DEL NORTE TRANSIT VILLAGE

The El Cerrito Del Norte BART mixed-use development is a new neighborhood located at the Del Norte BART rail station. It contains 135 multifamily units—20 percent of which are affordable—and 21,000 square feet of commercial space in the city of El Cerrito, California. The project provides a model for an effective public/private partnership. The El Cerrito Redevelopment Agency acquired the site for $3 million through the issuance of qualified redevelopment bonds, and leased it to the Ibex Group, the project owner/developer, for a period of 65 years. The redevelopment agency in return will receive 20 percent of the net project cash flow (after the fifth year) and a 20 percent share of the sales proceeds. Construction and permanent financing of approximately $11 million was provided through 40-year, fixed-rate, tax-exempt mortgage revenue bonds (multifamily housing bonds) issued by Contra Costa County. The loan proceeds were insured through the FHA coinsurance program, 221(d)(4), which gives the bonds a GNMA guarantee, and consequently a superior bond rating. The principal source of the remaining funds was equity provided by the Del Norte Place Limited Partnership. The Ibex Group contributed approximately $3.2 million. Low-income housing tax credits were syndicated to 30 individual limited partners for a further $1.8 million in equity contributions. In addition, the Contra Costa county department of community development provided $200,000 through the community development block grant program. Bay Area Rapid Transit participated in the partnership by selling an easement under the elevated track at Del Norte to be used for parking.

square meter), a 23 percent premium. Finally, being near a Caltrain commuter stop more than doubled land values. Perhaps the most consistent finding from California is that for-sale residential properties near suburban commuter-rail stops enjoy premiums; in the case of San Diego, for example, such properties enjoy a 17 percent advantage.

A growing body of literature shows the financial benefits of being near transit. The challenge is to create partnerships that allow those benefits to translate into profitability for the developer, rather than simply for the landowner.

3 Think Development When Thinking about Transit



RTKL

Real estate opportunities should always take priority over low-cost transit solutions. For example, running transit along the median of an interstate may save the transit agency from having to pay for a new right-of-way, but it will decrease accessibility for riders and eliminate opportunities to promote higher densities and economic growth around the stations. Opportunities for creating higher densities, and for mixing product types to market to a broader spectrum of incomes, should be sought out during transit project development. Higher densities strengthen the demand for transit; thus, new transit projects offer opportunities to be aggressive about density. Good design and a high level of amenities are vital, and can make a high-density urban setting seem much less dense.

Most new development near transit will be built on private property by private developers. To help these projects succeed, the public must be attuned to the needs of the private sector—which may be a difficult adjustment in communities that have historically had adversarial relations with developers. Being sensitive to the needs of the private sector does not mean compromising public goals, however; it simply means recognizing that those goals need to work for the developer as well.

To a developer, the clock starts ticking once the land is acquired and financing costs begin to accrue. Amenities desired by the public, whether identified during the visioning process or as part of entitlement review, should be agreed upon upfront, when there is still time to incorporate them into the project costs. Two things are critical to the developer's schedule: certainty and timeliness. To ensure both, the agencies responsible for project review should agree with the developer on a timeline for project entitlement and buildout. Delays in the approval process or the addition of requirements prior to, or as a condition of, approval add cost to the project and damage the bottom line. Facilitating the process with quick turnaround and on-time approvals helps to hold down the cost of borrowing money. For projects that are important to the public, the developer should be able to count on attentive staff and the support of top management.

Major public investments like transit can increase property values and create opportunities for community building. Because of the enormous potential to increase real estate value, generate jobs, and increase tax revenues, planning for areas around transit should be linked with economic development. Transit projects with thoughtfully planned routes and station locations can set the stage for significant private development: the careful coordination of transit and development is critical, so that each can optimally enhance the other.

Plano, Texas, after and before redevelopment. Plano, a suburb of Dallas, used a new transit station as a catalyst for downtown redevelopment.

During the early stages of planning for new development around transit, a market-wise transit agency would collaborate with local developers to create a fiscal analysis estimating building costs and investment returns for the private development of nearby properties. This approach will ensure that developers are active participants in the process and that the outcome will be realistic. Even though the planning horizon for transit may be 20 years or more, and the planning horizon for a development project may be only two or three years, design and buildout for the development project should anticipate the eventual transit facility so that when both are in place they work together.

MINIMUM DENSITIES FOR SUPPORTING TRANSIT

	Local Bus, Intermediate Service[1]	Local Bus, Frequent Service[2]	Light Rail[3]	Transit[4]
Dwelling units per acre	7	15	9	12
Residents per acre	18	38	23	30
Employees per acre	20	75	125+	N.A.[5]

Note: The density of the employment destination is more important in influencing trips than the density of the residential area where the trips originate.

1. Average density; varies as a function of downtown size and distance to downtown.
2. Average density over a two-square-mile tributary area.
3. Average density for a corridor of 25 to 100 square miles; transit to downtowns of 20 to 30 million square feet of nonresidential space.
4. Average density for a corridor of 100 to 150 square miles; transit to downtowns of more than 50 million square feet of nonresidential space.
5. Not available.

Sources: For residential densities, Boris Pushkarev and Jeffrey Zupan, *Public Transportation and Land Use Policy* (Bloomington and London: Indiana University Press, 1977). For employment densities, Reid Ewing, "Transit Oriented Development in the Sunbelt," *Transportation Research Record* 1552 (Transportation Research Board, National Research Council, Washington, D.C., 1996). L.D. Frank and Gary Pivo, *The Relationship between Land Use and Travel Behavior in the Puget Sound Region* (Olympia: Washington State Department of Transportation, 1994).

4 Get the Parking Right

As Goldilocks might say, parking around transit must be "Not too much, not too little, but just right." Too much parking makes the area less pedestrian friendly and wastes space that could be used for the types of development that increase ridership. Too little parking—or the perception that there is too little parking—can undermine the economic viability of projects built to take advantage of transit, making leasing or sales difficult. Insufficient parking at the station itself can force transit patrons to park in the surrounding neighborhoods, creating problems for nearby residents and businesses.

Parking is a big factor in determining the layout of the station area. How a transit station is connected with, or separated from, the surrounding community will largely determine the station's footprint and parking requirements. For example, to extend transit's reach into a wider, more auto-dependent travel region, terminal stations often serve as the primary location for parking lots. At closer-in stations, a greater share of transit riders frequently arrive on foot, or by bus or bicycle. On newer transit systems, stations adjacent to major roads often include extensive parking. The transit agency must find the balance between providing parking and allocating sufficient land for the types of adjacent development that will generate walk-on users.

Structured parking at Mockingbird Station, a 600,000-square-foot (55,740-square-meter) transit village in Dallas, Texas, is wrapped in retail and architecturally integrated into the community. In the aerial view on the next page, this garage can be seen at the very rear of the project.

Flexible parking standards provide some latitude in providing the optimal number of parking spaces. Of the many other tools that can be used to reduce the impact of parking, the four principal ones are "move it, share it, deck it, and wrap it."

- Move it: Contrary to common practice, in which parking is located immediately adjacent to the station, broader community goals are best served when parking is moved away from the platform. The land nearest the station is the best land for development, so using it for parking means a lost opportunity. Placing parking a five- to seven-minute walk from the station opens prime real estate for development.

- Share it: Sharing the parking among patrons who make use of it at different times of the day or week is an excellent way to minimize the space devoted to parking. The San Diego transit system, for example, shares one of its

commuter lots with a multiplex theater. Transit riders use the parking on weekdays, and movie patrons use it on evenings and weekends. Shared parking can be operated privately or by a local parking authority. Parking fees offer an opportunity for additional revenue.

WALKER PARKING CONSULTANTS

This parking structure in Glendale, California, is set back from the street in order to minimize the towering effect of its six levels. A pedestrian arcade that leads to the Market Place shopping plaza is enhanced by an overhead metal trellis, a waterfall, seating areas, and architectural light fixtures.

■ Deck it: Structured parking is expensive. Bernard Zyscovich, of Zyscovich, Inc., points out that in Miami, for example, a basic parking garage without sprinklers costs $6,000 to $7,000 per space; more highly finished facilities in urban neighborhoods cost between $10,000 and $13,000 (creating an additional incentive to charge for parking). Structured parking can be even pricier: a garage planned next to the Amtrak station in Philadelphia is projected to cost $33,000 a space. Charging for parking tends to be controversial for a transit agency because it is perceived as a deterrent to riders, but it is essential to finance needed facilities.

■ Wrap it: In place of the typical suburban sea of surface parking, creative designers can wrap a parking structure with retail shops, eateries, residences, and services, such as dry cleaners. This mixed-use approach makes the parking structure more attractive as an urban place, allows people who park there to take care of errands, makes the walk to and from the parking lot more interesting, and creates a built-in clientele for the businesses.

Mockingbird Station is located on the Dallas Area Rapid Transit system, along Dallas's Central Expressway, and across from Southern Methodist University. The mixed-use development consists of retail, residential lofts, and office space.

Under Federal Transit Administration regulations for joint development, transit agencies may sell off surface parking lots, as long as they are transformed into transit-supportive developments, without having to pay back the federal treasury (which typically covered 80 percent of the cost of building parking for rail systems). In some markets, such as the Washington, D.C., area, the San Francisco Bay area, and a few other locales, land values are high enough to make it economically feasible to replace surface parking with decked parking, freeing up half or more of the original parking lot for infill urban development. This approach allows surface parking to be used as a form of land banking.

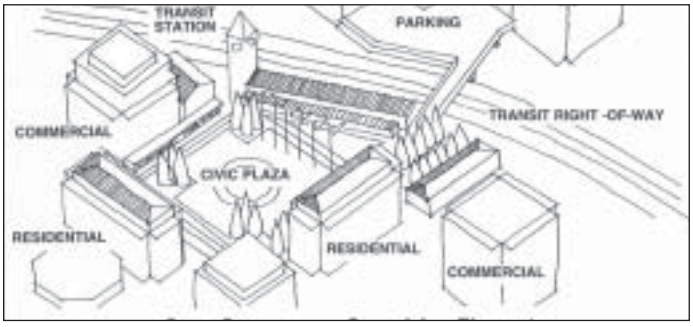
5 Build a Place, Not a Project

FEDERAL REAL ESTATE INVESTMENT TRUST

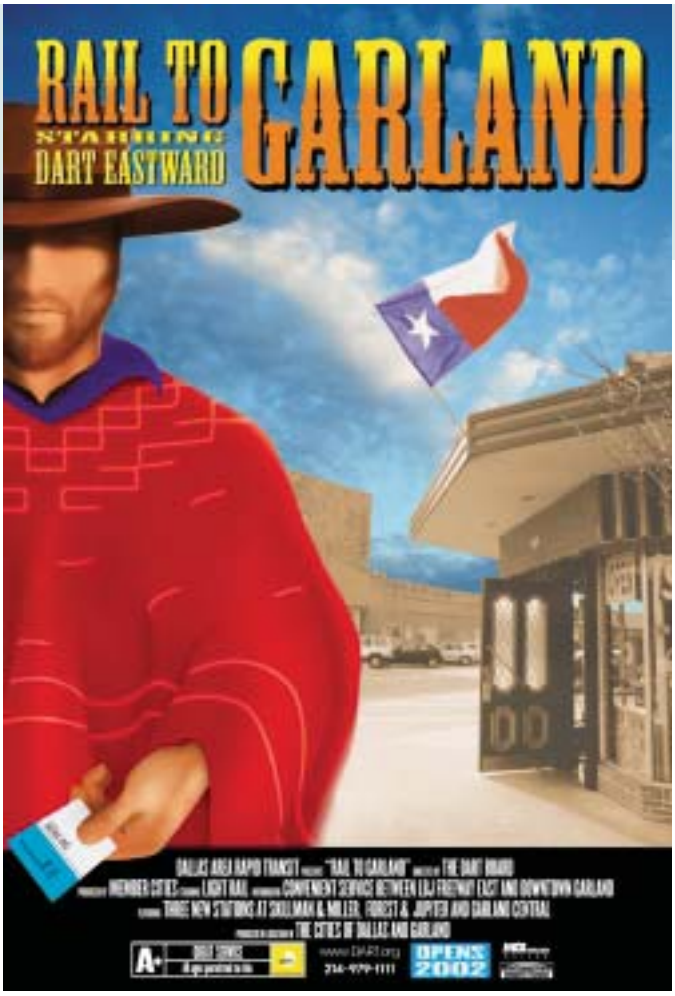
A major new transit station in a community should bring more than the trains. It presents an opportunity not only for "a project at the station," but for a full-fledged transit-centered community, with all the attendant economic and cultural benefits.

Although transit agencies often feel that their responsibility ends at the fare gates, the creation of a genuinely transit-centered community requires attention to scale and design. It is essential to engage all the principals (the transit agency, the local government, the citizens, and the participating developers), to employ highly skilled and experienced designers, and to use design principles that support the creation of a genuine sense of place. Among these principles are the following:

- Locate the transit stop at the center of the neighborhood rather than on its periphery. The new station will connect an entire regional transit system to the surrounding community, and its location should reflect the centrality of its role.
- Design and position the station to foster the creation of an activity center that surrounds the station on all sides.
- Ensure that the design of the station is of high quality and reflects the character of the surrounding community.
- Include engaging public spaces, attractive street furniture, and public art. Public space is important in the creation of place; among other things, it allows for events such as concerts, markets, exhibits, and celebrations—events that bring people and vitality to the area and stimulate economic activity.



Open space can be used as an organizing element in the creation of a transit village.



■ Promote pedestrian connections by creating compact blocks, pleasant walkways, and comfortable, well-marked, and continuous streetfront experiences. The appeal of the pedestrian environment strengthens the sense of place and supports retail spending.

■ Create attractive landmarks and gateways to the development.

■ To ensure round-the-clock activity, incorporate a variety of residential uses.

Because development around transit benefits from higher density, it is important to avoid suburban-oriented traffic standards, which are specifically designed to limit density and relieve congestion. Typical suburban standards for parking and road access are excessive for development around transit and can undermine the site's pedestrian orientation and sense of place. Regulators should develop more appropriate standards, which will preserve pedestrian amenities and enhance place-making opportunities. A supportive planning staff can be of tremendous help in guiding the implementation of the vision and establishing appropriate standards and criteria.

FEDERAL REAL ESTATE INVESTMENT TRUST

Impact fees for development around transit should reflect the goals and benefits of compact, transit-oriented development. One possibility is a sliding scale that allows offsets for development within walking distance of a train station or that provides special allowances for mixed-use development. Recognizing that smart growth requires smart pricing, a number of cities, including San Jose and Orlando, have introduced such modifications to their program of impact fees.

6 Make Retail Development Market Driven, Not Transit Driven

Although the retail component may be viewed as the generator of excitement for development around transit, it cannot be the justification for the development. The most important considerations for retail development are location, market, and design; proximity to transit is not a prime consideration in most markets. Transit access can strengthen the retail market, but the market must be viable without the transit component. Consequently, it is misguided to believe that just because there is transit, if you build retail "they will come."

Loft apartments over retail at Mockingbird Station, Dallas, Texas.

Successful real estate development requires careful attention to real estate markets; increasing transit requires careful attention to transit markets. Although knowledge of the community's demographic and psychographic profiles can help to inform both of these undertakings, they are not the same. Retail is the one land use that is least likely to succeed where it lacks strong market support. Thus, retail does not drive development around transit; it "follows rooftops."

Development plans for the area surrounding the station should reflect the volume that retail developers need; the rules specifying the distance that people will travel to any particular store are immutable. High-density office or residential developments may be ideal sources of transit riders, but they cannot be counted upon to support retail. If there is an existing market for retail, then developing retail first and subsequently adding residential or office space can help reinforce the retail demand.

Although retail is a desirable element in a community and a valuable generator of tax revenues, it may not be supported by market demand, and public agencies must resist the temptation to require retail as part of a project. If stores remain dark and businesses fail, the whole transit village will suffer the stigma of failure. Far better to have a few busy, successful stores than many dark and empty ones.

7 Mix Uses, but Not Necessarily in the Same Place

Denver, Colorado.

A good mix of uses generates a vibrant assortment of people going about their business at many hours of the day. But the creation of an attractive community does not require that uses be mixed on the same site, or even at each station. Integrated mixed-use projects are difficult to finance and complex to build. A transit corridor that offers an advantageous mix of uses, however, can be used to integrate a number of separate activity nodes, particularly when the various uses are close together, easily accessible, and support each other. It is possible, for example, to live at one station, work at another, and shop at a third, with transit making possible the connections among all three. The accessi-

Union Station and downtown Denver, Colorado.

MIXING IT UP ON THE C LINE

An excellent example of mixing uses along a corridor is the light-rail C Line in Denver, Colorado. At one end of the line, Mineral Station offers the 300,000-square-foot (27,900-square-meter) Aspen Grove Lifestyle Shopping Center. Three stops up the line, at the Englewood Station, is a mixed-use area that includes a library and the Museum of Outdoor Arts. Farther on, at the Auraria Station, is the 33,000-student college campus shared by the Community College of Denver, the Metropolitan State College of Denver, and the University of Colorado at Denver. The next stop is Invesco Field, home of the Denver Broncos, and the stop after that is the Pepsi Center, home of the National Hockey League's Colorado Avalanche and the National Basketball Association's Denver Nuggets; the stadium is also used for arena football, professional lacrosse, and concerts. An amusement park, Six Flags Elitch's, is adjacent to the Pepsi Center. At the other end of the line, the light-rail system winds into Denver's Union Station, near the LoDo district and Coors Field, home of the Colorado Rockies baseball team. The mix of uses along the corridor facilitates bidirectional and off-peak travel on the C Line. Events held at Invesco Field, the Pepsi Center, and Coors Field account for a significant percentage of the off-peak use of the C Line.

Events held at Invesco Field, the Pepsi Center, and Coors Field account for a significant percentage of the off-peak use of the C Line. The accompanying chart shows the average numbers of riders for various sports and other events.

Broncos (football)	10,000–12,000
Avalanche (hockey)	1,500
Nuggets (basketball)	500
Mammoth (lacrosse)	1,900
Crush (arena football)	2,400
Concerts	1,500
Rockies (baseball)	3,700

D.A. Horchner/DesignWorkshop

Patterned after other transit-served neighborhoods like Boston's Back Bay and New York's Upper East Side, Denver's Commons neighborhood is a 21-square-block district of homes, businesses, shops, and entertainment, situated next to the Lower Downtown historic district.

bility of the uses along the corridor will render it attractive, and the diverse kinds of trips generated by the activity nodes may help to prevent the typical peak-demand patterns that are common to transit.

Any consideration of the market for mixed use should take into account the two-way nature of the transit corridor. Encouraging travel in both directions, throughout the day, makes the most efficient use of the transit system. Most transit systems are predominantly inbound in the morning and outbound during the evening. Retail and entertainment uses that encourage riders to travel to downtown during midday, after work, or on weekends help take advantage of excess transit capacity. Similarly, locating jobs at suburban stations can help encourage reverse commuting. Some of the other uses that foster two-way travel are schools and universities, airports, hospitals, and retail.

Development around transit responds to changing, growing, and often pent-up market demand. Because many consumers are seeking diverse urban environments and transportation choices in addition to driving, each juncture in the corridor can offer attractive real estate opportunities.

The Pepsi Center (left) and Waterside Lofts (below)—uses along the C Line.

8 Make Buses a Great Idea

COURTESY OF APTA

The bus is the mode of choice for most transit users. Buses carry the most transit passengers in all major markets except Atlanta, Boston, New York, and Washington, D.C., and they are the exclusive carrier in many large metropolitan areas. But buses offer no frills, and are often perceived as crowded, dirty, and bad-smelling. How can buses be made more appealing to businesses, developers, and potential riders? The answer can be found in the vehicles themselves, the quality of service, the attractiveness of bus stops, and, finally, in the characteristics of fellow riders.

Rail is often associated with white-collar commuters; buses, in contrast, are viewed as the mode of travel for the poor, for students, and for others with few transportation choices. If buses are to generate development in transit corridors, they need to serve a strong cross-section of the community—including middle-class riders. Successfully attracting middle-class riders will improve service for all, and will also provide a diverse market to encourage developers to build around bus stops.

To encourage ridership, buses need to be attractive, clean, fast, and fun. Boulder's Community Transit Network, for example, by designing services from the ground up, to meet customer needs, has made its sleek, brightly painted fleet of buses appealing and easy to use. Bus routes are named the Hop, Skip, Jump, Leap, Bound, Dash, and Stampede. Powered by natural gas instead of diesel fuel, the vehicles project a pro-environmental image.

Bus rapid transit vehicles can run in a fixed guideway, like light rail, but are equipped with rubber tires that allow them to run on regular roads.

Buses should also be simple to use and offer regular, reliable service. Bus stops should be attractive and comfortable, especially in bad weather, and should have clearly posted schedules and maps showing both individual and system routes. Passengers should be able to determine without difficulty how to get where they want to go.

LANE TRANSIT DISTRICT AND NEWLANDS & COMPANY, INC.

The 16th Street Transit Mall, in Denver, has helped transform a decaying downtown street into a vibrant, modern shopping and entertainment center at the heart of a revitalized central city. The one-mile- (1.6-kilometer-) long pedestrian and transit mall provides a car-free environment with transit centers at either end, offering express and regional bus service as well as connections to the light-rail system. An extension of the mall built in 2001 links to Denver's

COURTESY OF METRO MAGAZINE

Metro Rapid, a high-speed bus rapid transit that connects Santa Monica with downtown Los Angeles.

Union Station, which will be a major multimodal center. Buses run about once a minute during peak hours and every few minutes the rest of the day, giving downtown workers, residents, and visitors convenient access to the city's many attractions, including Tabor Center, the Denver Pavilions shopping center, and Coors Field. The mall shuttle carries 59,000 passengers on an average weekday, more than most new light-rail systems.

Buses have the important advantage of being flexible; for example, operations can be shifted from frequent neighborhood stops to high-speed freeway services. In Houston, the operating speed of buses on freeways is over 50 miles (80 kilometers) per hour—even faster than urban light- or heavy-rail services. Moreover, a bus line can evolve into light rail as traffic levels and nearby development increase—as is the case in Las Vegas, where a new Automated People Mover is being built along the Strip, which is currently a busy bus corridor.

One popular new approach to reinventing bus service is bus rapid transit (BRT), a fusion of bus and light-rail technologies. BRT has many of the features of a rail system, such as fixed terminal locations and dedicated guideways. Buses can be given priority at traffic signals to speed them on their way, and achieve average speeds that are two to three times that of light rail. With attractive new buses and transit terminals, BRT can offer the look and feel of light-rail service at substantially lower cost.

Developers do not typically regard bus stops as hubs for development. In many transit corridors, however, bus service supports downtown businesses and higher-density residential neighborhoods. Enlightened zoning, which allows higher densities and requires less parking along well-served bus corridors, will create opportunities for development that supports transit, even if developers do not consider such development "transit oriented." Redmond, Washington, and Eden Prairie, Minnesota, offer examples of development at suburban bus terminals; upgrading the image of bus transit can expand such opportunities.

9 Encourage Every Price Point to Live around Transit

Some of the more successful new transit cities have discovered what Boston, New York, and Washington, D.C., have known for years: just as people from every part of the economic spectrum ride transit, people from every part of the economic spectrum like to live *near* transit. After all, some of the toniest neighborhoods developed at the dawn of the 20th century—including Chevy Chase, Maryland, and Philadelphia's suburban Main Line—were linked to transit. Urban living has undergone a resurgence in recent years, and the quest for diversity is one of the drivers of that resurgence. Even traditionally suburban, auto-oriented cities, including Atlanta and Dallas, have discovered that important market segments are seeking out residential locations characterized by a mix of incomes; such cities are expanding their transit systems to address these market needs. Young workers often choose to live in urban neighborhoods, even if their jobs are in the suburbs. Living near transit can satisfy a desire for community, independence, opportunity, and convenience. Creating new communities around

MCLARAND VASQUEZ EMSIEK & PARTNERS, INC.

San Diego, California.

A HOT HOUSING MARKET IN SAN DIEGO

The San Diego Trolley, one of the most successful new transit projects in the United States, has become an attractive magnet for new housing across a range of price points. In downtown alone, where the trolley, buses, and commuter rail lines converge, there are 4,000 new apartments and 4,000 condominiums under construction or in the approval process. Rent levels are expected to range from $400 to more than $3,000, while sales prices will run from $200,000 to $1 million. In downtown San Diego, 101 Market Street is a luxury development whose monthly rents range from $1,000 to $2,000. In fashionable Mission Valley, there has been extensive housing developed along the trolley line. The Promenade is a mixed-use project with 970 market-rate units and 30,000 square feet (2,788 square meters) of retail space at the Rio Vista station. Affordable housing has been developed downtown and in outlying areas near transit.

A major new mixed-use development, City Heights Urban Village, is being planned along with a new transit service called the Transit First Showcase Project, high-quality, rubber-tired transit that will offer the speed, comfort, and amenities of a trolley connection to downtown San Diego. The project is being developed by a partnership of the city of San Diego, the San Diego Redevelopment Agency, the San Diego Foundation, CityLink Investment Corp., and Price Charities. It will include civic, employment, retail, and education uses, as well as affordable housing, a library, and a park.

MCLARAND VASQUEZ EMSIEK & PARTNERS, INC.

Townhouses in the Uptown District, San Diego, California.

intown transit development offers the opportunity to put forward a mix of upscale, market, and assisted housing.

It is important for developers and their market consultants to know the demographic profiles of those who are seeking to live close to transit; these groups include

- People who are tired of fighting traffic and are willing to give up their second car;
- People from a variety of age groups who are looking for opportunities to move up or down in housing size, depending on where they are in their lives; and
- Seniors who want an independent lifestyle and to reduce their dependence on the automobile.

A loft apartment, Mockingbird Station, Dallas, Texas.

Residential development around transit, especially when it is part of a mixed-use strategy, can be so successful that it attracts wealthier households, resulting in escalating real estate values, numerous upscale conversions, and rising rents. Preserving and expanding affordable housing is important as well, and is a special concern for development around transit because lower-income transit users often represent the core of the ridership. Local agencies should link transit funding with the provision of affordable housing so that transit and housing can reinforce each other.

10 Engage Corporate Attention

BellSouth's Lindburgh project, Atlanta, Georgia.

Corporations can play an influential role in stimulating development around transit. If corporations see transit as a slow and unreliable means of getting to work, executives in charge of location decisions will pay scant attention to transit access. If transit is viewed, however, as a valuable tool for recruiting scarce talent, companies will include "good transit access" on their checklist of considerations for site selection. More companies are focusing on transit access for workers, even if management does not plan to use it. David Houck, senior vice president of the Staubach Company, notes that public transportation is, or should be, a critical factor in locating call centers, which require large numbers of low-wage employees. Some companies that have moved to remote sites accessible only by car have found it so difficult to recruit workers that they moved back to closer-in sites.

In Atlanta, when corporations were asked to name the most serious impediment to business in the metropolitan area, the overwhelming answer was

MARTA Station at Lindburgh.

BELLSOUTH'S METRO PLAN

BellSouth Corporation's Atlanta Metro Plan will ultimately consolidate employees from approximately 23 locations all over the Atlanta region into three business centers, all of which are strategically located along Metropolitan Atlanta Rapid Transit Authority (MARTA) rail lines. When the Metro Plan is completed, in 2003, almost 15,000 BellSouth employees will have access to their jobs via mass transit.

By implementing the Metro Plan, BellSouth will replace 2 million square feet (186,000 square meters) of suburban office space with 3 million square feet (279,000 square meters) of new development downtown. The $750 million project will ultimately relocate nearly 13,000 employees, 30 percent of whom are expected to commute by transit.

The BellSouth effort demonstrates a clear commitment to developing around transit. As one of Atlanta's largest employers, BellSouth believes that the Metro Plan will proactively address Atlanta's traffic and pollution issues and inspire other companies to take action.

"traffic congestion." In response to the Atlanta area's growing traffic problems, BellSouth Corporation is consolidating all its suburban offices into three central locations accessible from MARTA (Metropolitan Atlanta Rapid Transit Authority), the city's rail system.

WORKPLACE CULTURE: WHAT'S OUT AND WHAT'S IN

OUT	IN
Suburban/exurban campus locations	Locations close to transit
Corporate campuses	Mixed-use developments
Kiss and ride	Live, work, play, and ride
Location near the chief executive's home	Location convenient for workers
Free parking	Free transit passes
Driving to lunch	Walking to lunch
Errands on the way home	Errands at lunchtime
Commuting car	Fuel-efficient station car
Quality of the workplace	Quality of life